The Oil and Gas Journal

PRODUCING REFINING ENGINEERING MARKETING

VOL. 29. NO. 4. TULSA, OKLAHOMA, JUNE 12, 1930

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Title _____

Company _____

Address _____

City _____

State _____

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Crude Affected By Surplus Gasoline

Highest daily average estimated total production in 1929, week ended Aug. 24, 2,975,435 bbls. Lowest in 1929, Dec. 27, 2,595,320 bbls.

Conservation Efforts of Producers Successful but Curtailment of Runs by Refiners Needed to Insure Prosperity

By Andrew M. Rowley

Highest daily average estimated light oil production in 1929, week ended Sept. 14, 2,534,524 bbls. Lowest in 1929, Apr. 13, 2,142,036 bbls.

With success attending efforts to prevent an overproduction of crude oil, the market remains somewhat weak and unsatisfactory because of the burdensome stocks of gasoline. At the season of the year when the refining industry should profit most from the increase in consumption of its products, prices are near the low level of the year. The reason is and has been perfectly clear to most refiners—too much gasoline is being manufactured. It was conceded by leaders of the industry months ago prosperity would be assured if runs to stills would be curtailed to a point which would permit substantial withdrawals of gasoline from storage. But it seems while refiners are agreed curtailment of runs to stills would improve the situation each wants the other fellow to do the curtailing.

California has about reached the goal in its crude oil conservation program and the output in Oklahoma will be held fairly near present levels. Texas is still above its quota in the production column and the action of the Humble in notifying producers in areas of North Texas and the Texas Panhandle that, effective July 1, it will no longer purchase crude in those areas is significant of the trend. Construction of the Ajax pipe line from Oklahoma to Wood River, Ill., will be a factor in the crude oil situation in the Mid-Continent area.

Estimates have been made that the consumption of all oils this year will be approximately 6 per cent greater than last year. Gasoline consumption for the year can be estimated fairly accurately, consequently the refining industry is in a position to determine in advance what its requirements will be. Stocks of gasoline on May 1 of this year were 7,400,000 bbls. greater than on the same date last year while there was 20,000,000 bbls. more crude oil in storage.

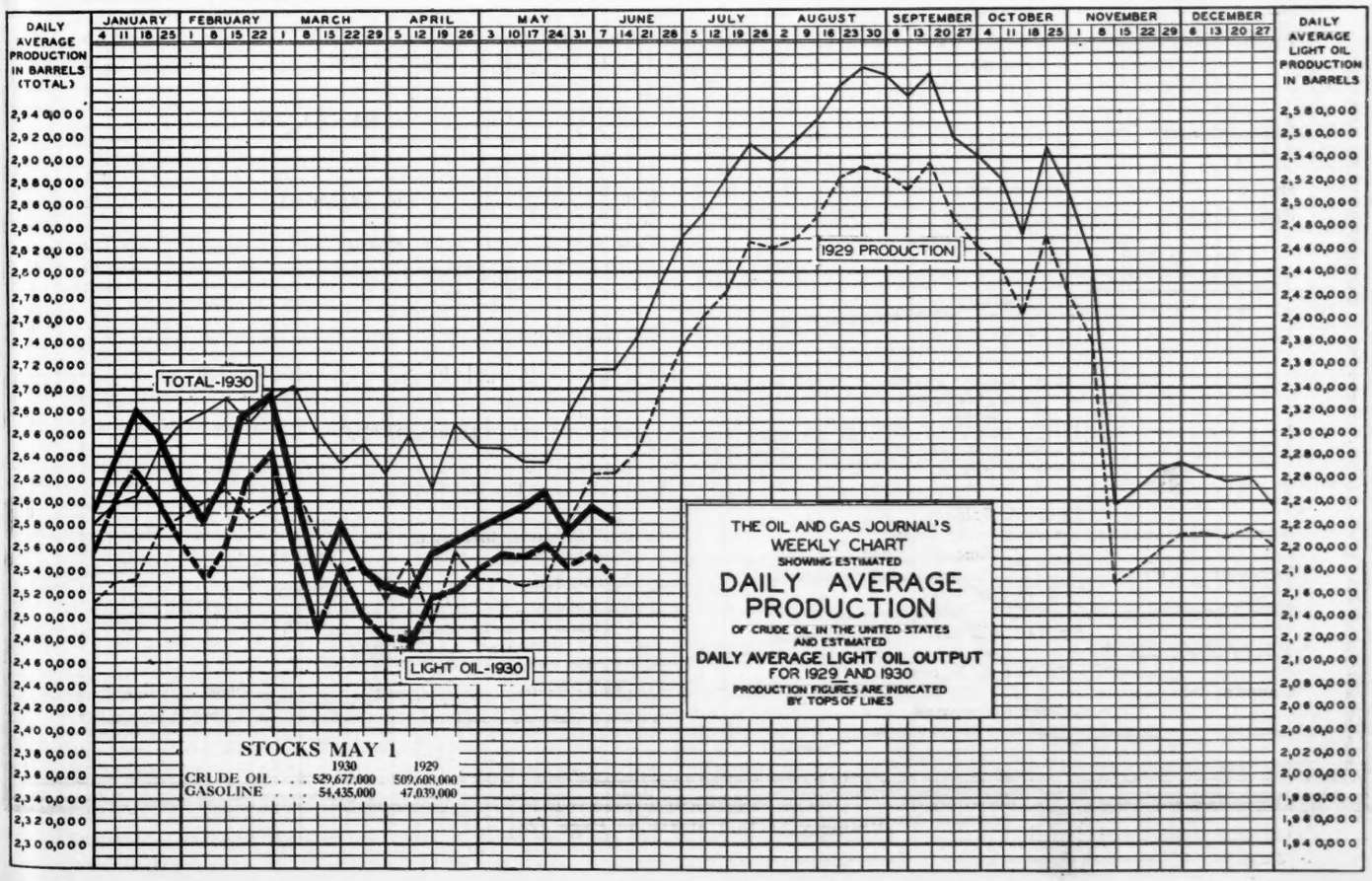
Good motoring weather will help the present situation but permanent improvement would be assured were less gasoline manufactured and stocks of this product drawn upon heavily during this summer.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of light and heavy gravity oil in the United States for week ended June 7, and a comparison with the previous week follows:

	June 7		May 31	
	Light	Heavy	Light	Heavy
Oklahoma—				
Oklahoma City	117,520	.....	126,610	.....
St. Louis-Pearson	24,605	.....	27,920	.....
Seminole	212,340	.....	217,440	.....
Northern miscellaneous	254,020	.....	250,330	.....
Southern fields	58,330	.....	58,270	.....
Total Oklahoma	666,815	.....	680,570	.....
West Texas—				
Hendricks	69,705	.....	70,860	.....
Yates	118,305	.....	118,241	.....
Remainder	121,616	.....	119,571	.....
Total West Texas	309,626	.....	308,672	.....
North Louisiana	35,625	5,125	31,965	5,120
Arkansas	16,400	40,000	16,385	36,700
North Central Texas	138,347	.....	139,267	.....
Texas Panhandle	110,898	.....	112,826	.....
East Central Texas	40,260	.....	35,507	.....
Kansas	134,480	.....	134,920	.....
Total Mid-Continent area	1,452,451	45,125	1,460,112	41,820
Gulf Coast	.....	200,721	.....	200,694
Southwest Texas	.....	73,315	.....	70,731
Eastern	133,000	.....	132,500	.....
Rocky Mountain area	81,798	.....	89,124	.....
California—				
Santa Fe Springs	111,000	.....	112,500	.....
Long Beach	91,500	.....	92,000	.....
Huntington Beach	28,000	.....	28,250	.....
Elwood	46,500	.....	48,500	.....
Ventura Avenue	47,000	.....	47,500	.....
Seal Beach	22,000	.....	23,000	.....
Remainder of State	160,000	92,000	162,000	90,000
Total California	506,000	92,000	513,750	90,000
Total United States	2,173,249	411,161	2,195,486	403,245
Grand total		2,584,410		2,598,731

Total Decrease 14,321 Bbls.; Light Oil Decrease 22,237 Bbls.



Inactive Refinery Market in Oklahoma

Practically All Products Weak as Buying Fails to Absorb Available Supplies. Feel Competition of Pennsylvania Lubricants

By C. O. Willson

In one of the slowest markets in the history of the Mid-Continent Field, buyers of practically all Oklahoma (Group 3) refinery products were having material offered them at quotations under those prevailing a week ago. The weakness extended from the highest gravity gasolines to the lowest grades of fuel oil and included lubricants, wax and other by-products.

Up to Tuesday there were no indications that optimistic predictions of sellers made early in the month regarding gasoline price trends would materialize Buyers were in control of the market and so far as spot purchases were concerned prices were near the low levels prevailing early in the year. Widespread concern was apparent among sellers, many of whom have refused to give price concessions since the dull period started late in April. The managements of many of these companies were content during May to store gasoline in excess of the requirements of their own stations and contracts in expectation that June would at least give them the opportunity to dispose of their gasoline without pushing spot prices to lower levels.

Although there has been a seasonal increase in actual consumption of gasoline many Oklahoma and other Mid-Continent refiners fear that this gain is not being reflected in shipments from their plants. Shipments have increased but not in the volume expected. In the case of several of the larger Oklahoma refiners, the sales departments had expected that their regular outlets would take care of their current production starting June 1. In a few cases at least this hoped for development has not materialized. The wide margin between the spot market and the prevailing contract which is based on published prices has caused some jobbers to reduce the contract shipments to a minimum while taking advantage of bargain material offered from day to day.

The larger refiners dislike to further demoralize the spot market by offering excess material and this has not yet been done with the exception of two or three companies. However, unless conditions improve before the end of the month it is predicted the open market will see some additional participation coming from operators who have become convinced of the futility of supporting the market through curtailed operations and increases to inventories.

A slump in the gasoline market, particularly at this season of the year, is bad enough but a large number of refiners have the additional problem of disposing of other products. The kerosene market is as weak as gasoline. Several sellers have more gasoline on hand than they care to carry over to the fall season and exporters and large domestic buyers are receiving attractive offers of spot material and for delivery over the next 30 to 60 days.

Competition in kerosene in general, is coming not only from the Mid-Continent groups but also from the plants in the Middle West and East. The jobber demand has been especially dull since the first of the month.

There has been very little demand for fuel oils outside the contracts and while the supply for open market quotations is not large, buyers have been able to shade last week's prices from 2½ to 5 cents a barrel. Gas oil prices are unchanged.

Mid-Continent manufacturers of bright stocks and steam refined stocks last week saw another drastic cut in Pennsylvania prices with smaller reductions in some grades of neutral oils. Finished motor oils made from Pennsylvania oils or blends of Pennsylvania and western oils have also been reduced. These reductions have given further evidence that Mid-Continent prices are out of line. Although price reductions have not been an-

(Continued on Page 145)

REFINED MARKET BAROMETER

The past week saw many reductions in prices for refined products. In several areas the larger refiners were maintaining firm prices but material was available from other sources of supply with price concessions. Refinery gasolines were generally weak with the greatest price declines in the Mid-Continent. Price reductions in kerosene prices for domestic movement extended from the Rocky Mountains to the East Coast. Fuel oil, gas oil and distillate prices also reflect an unsettled situation except for the coastal areas where prices are generally steady. The outstanding price declines of the week were in steam refined stocks and bright stock at eastern refineries. Wax prices were also lower in the East.

Mid-Continent—Market generally weak. Gasoline demand less than supply and price concessions the rule in spot market transactions. Kerosene weak and prices lower. Fuel oil movement slow at lower prices. Lubricants and wax slow.

East Coast—Gasoline and fuel oil prices fairly steady but easiness rules in other products. One of the largest reductions of past year in steam refined stocks and bright stocks. Wax prices lower.

Pennsylvania—Prices on all grades of cylinders lower. Kerosene prices reduced. Gasoline movement slow.

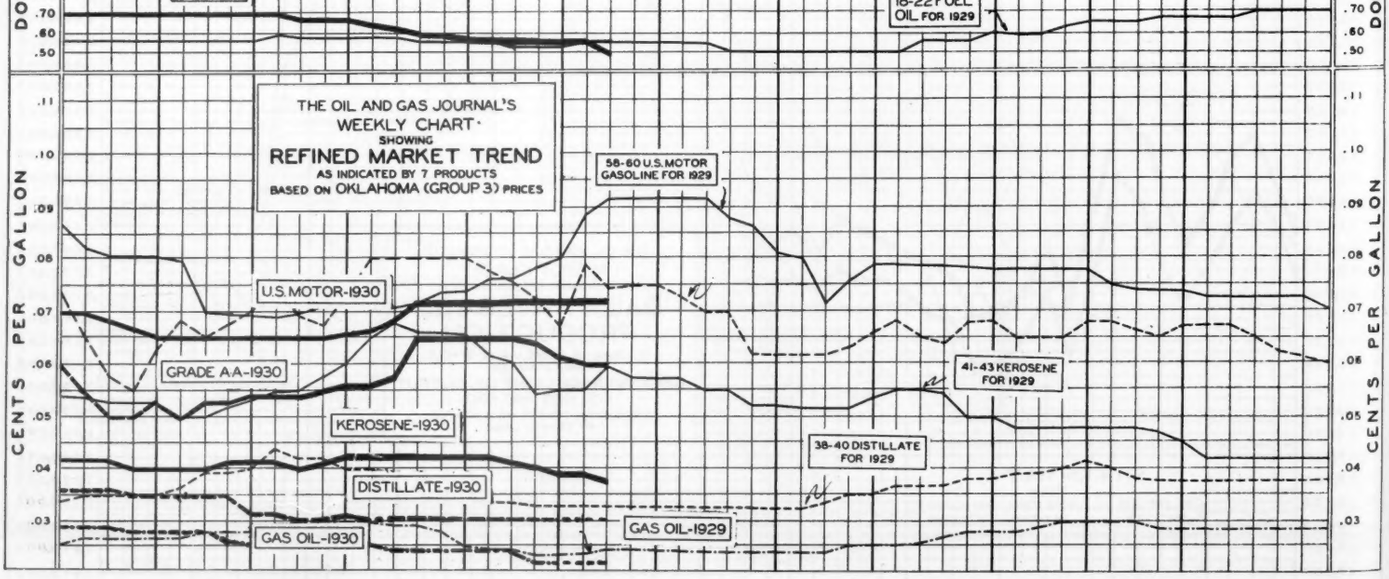
Chicago—Refiners attempt to improve gasoline movement from plants with lower prices. Contract movement fair. Kerosene distillate sluggish. Few inquiries for fuel oil and gas oil.

Gulf Coast—Gasoline easy. Fuel oils firm. Routine movement of pale and red oils.

MID-CONTINENT REFINERY OPERATIONS
(Data in thousands of barrels)

	Crude runs to stills			Gasoline			Gasoline stocks†		
	April 1930	March 1930	April 1929	April 1930	March 1930	April 1929	April 1930	March 1930	April 1929
Oklahoma, Kansas, etc.	10,408	9,851	9,539	5,685	5,343	4,981	5,008	5,124	5,622
Texas*	5,251	5,076	5,024	2,390	2,250	1,851	1,583	1,490	1,018
Arkansas-Louisiana*	2,093	1,986	2,145	789	821	625	365	354	257
Total	17,752	16,943	16,708	8,864	8,414	7,447	6,956	6,968	6,897

*Except Gulf Coast. †End of month. Data based on Bureau of Mines report.



Capacity of Ajax Line 65,000 Barrels

One Loop May Be Used Later for Gasoline. Line Owned Jointly by Standard (New Jersey) and Standard of Ohio

By A. E. Mockler

New York Bureau, The Oil and Gas Journal, Rooms 1919-21, No. 154 Nassau Street

NEW YORK, June 9.—Details surrounding the construction of the Ajax pipe line from the Glen Pool in Oklahoma to Wood River, Ill., became available here this week through confirmation by Standard Oil Co. (New Jersey) officials of the report that the Jersey company, in conjunction with Standard Oil Co. of Ohio, is behind the new project.

Plans for the new pipe line became known a few months ago, but the only information available at that time was that Ford, Bacon & Davis, well-known construction engineers, were constructing the line and officials of the construction company refused absolutely any details concerning their principals.

The new pipe line, it is learned here, will be a double parallel 10-inch line, with maximum capacity of close to 65,000 bbls. daily. There will be nine intermediate pumping stations with triplex pumping equipment, contracts for this equipment having been awarded to several pump manufacturers. These pumps will maintain between 600 and 700 pounds pressure in the line. Construction work is being rushed, and while there is no definite date set for completion of the line, it is believed the system will be finished and running oil some time during the first quarter of 1931. Youngstown Sheet & Tube Co. has already started deliveries of pipe which is going into the 400-mile trunk line.

Officials of the Standard Oil Co. (New Jersey) declare that while the new line is designed to take care of the requirements at its refinery at Parkersburg, W. Va., Standard of Ohio plants at Toledo and Cleveland, Ohio, and Latonia, Ky., and the Imperial Oil, Ltd., refineries, no definite plans have yet been made for the shipment of crude from Wood River to any of its interior plants. Present plans, however, do not contemplate the running of Mid-Continent crude right through to Bayonne via the Ajax system, and it is not believed this phase of the situation will be taken up while South American and West Texas crudes can be laid down by tankers at Atlantic Coast refineries at present favorable price levels.

Crude Movement

The Ajax line will originate in the Glenn Pool, and gathering lines will extend to other producing territories in Oklahoma for additional supplies of crude to be run through the Ajax line. The pipe line will run to Wood River via St. Louis, and it is expected considerable storage will be erected at the former point.

Crude may be transported from Wood River to the Standard Oil Co. of Ohio refineries via the Illinois Pipe Line which connects with Buckeye Pipe Line, which in turn delivers crude to the Cleveland and Toledo refineries of Ohio Standard.

The Imperial Oil, Ltd., pipe line connects with the Buckeye line at a point north of Findlay, Ohio, and crude oil for the Imperial refinery at Sarnia, Ontario, is expected to be transported by this method.

It is not yet clear just how the crude will be moved from Wood River to the Jersey company's refinery at Parkersburg, W. Va., and it is believed a definite decision on this phase of the line's operation will not be made until the Ajax line is closer to completion. There are several methods by which this oil could be moved.

The Eureka Pipe Line transports crude to the Parkersburg refinery. To connect the Ajax line from Wood River to the Eureka system crude can be run via the Illinois or Buckeye lines, hooking up with the Southwest Pennsylvania Pipe Line or National Pipe Line, both of which connect with the Eureka line.

Another method of transporting this crude, not hitherto mentioned, but one likely to receive the serious consideration of Standard of New Jersey officials, is via water. The Parkersburg refinery is using considerable water transportation now, and it is pointed out a fleet of river tankers would prove both practical and economical for the transportation of crude from the Ajax terminal at Wood River to Parkersburg.

Aggregate Capacity

Aggregate capacity of the Ajax line is considerable in excess of the capacity of the Jersey, Ohio and Imperial refineries which it will supply. The Parkersburg plant is running between 4,000 and 5,000 bbls. of crude per day; the Imperial refinery at Sarnia, Ontario, has capacity of 12,000 bbls. daily, and the Toledo and Cleveland plants of Standard Oil of Ohio have joint capacity of 28,000 bbls. daily. Disposition of the additional supplies of crude which the line will be capable of transporting has aroused considerable interest in oil trade circles here.

The Ajax line, it is understood, is being constructed in a manner that will permit of its being converted into a gasoline carrier, and the fact that the system is being constructed as two parallel systems of 10-inch line has given rise to the belief that half of the system may be utilized for the transportation of motor fuel from Group 3 territory into consuming markets which may be served profitably from Wood River. Should part of the line be used for this purpose, it would enter into competition with the new Phillips pipe line which will transport gasoline from Borger, Tex., to St. Louis for reshipment by way of water and tank car into central and northwestern distributing territories, and the projected Barnsdall gasoline line to Milwaukee.

Local oil circles apparently are under the impression a considerable quantity of Mid-Continent crude run to Wood River by way of the new Ajax line will find its way to Bayway, but Standard of New Jersey officials have intimated rather broadly that such a step is not contemplated in the immediate future, pointing out that crudes from other fields can be laid down at Bayway by tankers much cheaper than Mid-Continent crude shipped by pipe line.

For transporting Mid-Continent crude from Wood River to Bayonne, however, there are several routes available. A logical development, it is believed, would be the completion of the looping of the Tuscarora line, which is now being used to transport gasoline from Bayonne through New Jersey and Pennsylvania to the Ohio border. This line is looped and is double in spots and triple in others. In the aggregate, the Tuscarora line is a double system for approximately 50 per cent of its length. Completion of the looping would give Jersey a two-way pipe line, pumping gasoline westward and crude oil eastward. Such a step, however, is not looked for until the crude oil situation is adjusted to the point where it is no longer possible to lay down South American and West Texas crudes at Atlantic Coast ports by tankers at prices substantially under those for which Mid-Continent crudes could be piped here.

May Transport Gasoline

The fact that the new Ajax line is being constructed to permit of its being used for the transportation of gasoline has aroused conjecture in the minds of some observers as to Standard of New Jersey's plans for the ultimate development of a more extensive gasoline pipe line distributing system. While a number of other gasoline pipe line projects are now planned or under way, notably those of Sun Oil Co., Barnsdall, and Phillips, Standard Oil of New Jersey is at present the only company which is operating a long distance pipe line for the transportation of motor fuel. While the actual results of this pipe line transportation are not generally known, it is reported the project is a complete success and pipe line shipping of gasoline is working out to the entire satisfaction of the New Jersey company. Utilization of half of the Ajax line for the transportation of gasoline into interior markets from Group 3 territory would materially widen Jersey's "sphere of influence" and extend its marketing activities still further afield from present territory. Based on the current crude capacity of the plants which the Ajax pipe line is designed to supply, there will be an excess of some 15,000 to 20,000 bbls. pipe line capacity available in the Ajax line. Assuming that, with other sources of present crude supply, 50 per cent of the Ajax system would care adequately for the needs of the Parkersburg, Toledo, Cleveland and Sarnia plants, half the Ajax line, or approximately 30,000 bbls. daily capacity, would be available for the transportation of gasoline. The Parkersburg refinery of Standard of New Jersey, which has but from 4,000 to 5,000 bbls. daily crude capacity, has been drawing gasoline from some of its requirements from Bayway, by way of the Tuscarora pipe line, with considerable of this gasoline handled by river barges. Jersey's business in the area served by the Parkersburg plant has been steadily mounting since the organization of Standard Oil Co. of Pennsylvania, a subsidiary marketing company, and it is conceivable the company may plan to draw gasoline from the Mid-Continent to supplement the production of its Bayway and Parkersburg plants.

Effect on Territories

Construction of the Ajax line by Standard of New Jersey and Standard of Ohio has also revived reports of the plans of the former company to expand its marketing activities into Standard of Indiana territory, and this likewise suggests the possibility the Ajax line may be used to move gasoline from Group 3 into the midwestern area to take care of the requirements of such an expansion move. Extension of Jersey's operations into Indiana territory, it is pointed out, would be but another step in the general breaking down of the old territorial lines of the Standard group, and would be comparable to Jersey's invasion of Atlantic

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AJAX HEADQUARTERS WILL BE IN TULSA WHILE BUILDING PIPE LINE

The Ajax Pipe Line Co. is establishing headquarters in Tulsa. The company is moving into the large suite of rooms on the eighth floor of the Kennedy Building vacated by the White Eagle Oil & Refining Co. after it became a part of the Standard Oil Co. of New York through its purchase by the Magnolia Petroleum Co.

H. S. Austin is president of the Ajax Pipe Line Co.; E. F. Johnson, vice president; J. R. Dolds, vice president and general superintendent; E. J. Lewis, treasurer; S. V. Kane, assistant treasurer; S. H. Flagler, secretary; R. E. Flatley, assistant secretary. President Austin and Vice President and General Superintendent Dolds will be in Tulsa together with the assistant treasurer and assistant secretary, Messrs. Kane and Flatley. Vice President Johnson, Mr. Lewis, the treasurer, and Mr. Flagler, secretary, will have their headquarters at 26 Broadway, New York.

The Tulsa headquarters are not necessarily permanent. The main offices may be in Springfield, Mo., when the line is completed, but this will be a matter for the future to determine.

The selection of Tulsa as headquarters during the months that the line will be under construction was because of the fact that all the supply companies have agencies, if not headquarters, in that city, enabling the company to get quick service at all times.

The rumor has persisted in Tulsa that one of the lines of the twin system will be for the transportation of gasoline, but none of the officials of the company in Tulsa would admit this. Neither would they say where they expected to get 65,000 bbls. of crude a day out of the Oklahoma field.

There is no doubt that the oil may be had in Oklahoma, as the Oklahoma City Field alone could supply it for a considerable period if called upon, and the Seminole Field could be drawn upon quite extensively. If the Humble Pipe Line Co. builds a line from its West Texas lines to a junction with the Oklahoma pipe line and the Louisiana pipe line at DeQueen, Ark., a large volume of oil now passing through the Oklahoma Pipe Line Co. southerly could be diverted northerly through the Ajax pipe line. The Ajax will not be a purchaser of oil. It will be a common carrier pipe line and its shipments will consist of oil delivered to it by other companies and its deliveries will be made at the Mississippi River to easterly lines.

The president of the Ajax Pipe Line Co. is an old-time pipe line man who has been with the Standard Oil Co. since 1900. Starting in as a young man in Oil City, that cradle of many pipe liners, he worked up the ladder until about 1915 he was sent to Oklahoma and became chief engineer and superintendent for the Oklahoma Pipe Line Co. with headquarters in Muskogee. He was transferred to the east in 1921 and continuing upward he became president of the Tuscarora Oil Co., owner of the Tuscarora pipe line, which recently was converted into a gasoline line. It is said that Mr. Austin was in charge of the work of converting the line from a crude oil carrier eastward to a gasoline carrier westward.

The other officials excepting J. R. Dolds, vice president and general superintendent, are also officials of the Tuscarora Oil Co. Mr. Dolds has been with the Oklahoma Pipe Line Co. for years, most recently in the Ardmore district.

H. M. Stevenson, chief engineer, was formerly chemical engineer for the Humble Pipe Line Co.

The work on the Ajax line from Glenn Pool to a point near Alton, Ill., will be commenced without delay and it is expected that oil will be running through it by the spring of 1931.

Mid-Continent Refinery Runs Less

Slight Decrease in Crude Oil Runs to Stills Instead of the Usual Increase in Prospect for June

By C. O. Willson

Petroleum refiners in the Mid-Continent area will run slightly less crude oil to their stills in June than they did in May, according to reports obtained the first few days of the month. As shown in the accompanying table the crude runs will average 572,250 bbls. daily in June compared to an estimated average of 574,300 bbls. daily in May.

The June figure is not only slightly less than May but is 12,780 bbls. less than in June of last year. The reduced runs coming at a time when operations are normally expanded is due to a generally unsatisfactory refinery market which has caused many plants to be operating at a loss. Unless this condition changes either through higher prices for refinery products or through a reduction in crude oil prices it is probable that several plants will make additional curtailments effective before the end of the month.

While the low prices prevailing for gasoline is the greatest concern of plant operators, the fact that kerosene, fuel oil and all the other principal products are weak is also a factor in plant operations. A number of Mid-Continent refiners, particularly in West Texas, sell the bulk of their plant output as fuel oil and gas oil. Many operators are well protected in the sale of these products through long-time contracts but where they are dependent on the spot market they are having difficulty getting outlets even at the low prices now prevailing. Prices on other products reflect a similar situation.

Several temporary shutdowns have occurred the owners preferring to close down their plants until such time as conditions improve. The great majority of refiners, however, have contracts for crude oil purchases and also have contractual agreement covering a part of their refinery output. The best these owners can do is to curtail their operations or postpone the expansion programs which they had planned for June.

Some of the larger refiners in the Mid-Continent are endeavoring to keep their gasoline output in line with the demands of their own stations and their contracts with jobbers. It is realized that the spot market is already glutted with distress material coming from operators who are accustomed to sell their gasoline from week to week on the spot market and any attempt to dispose of additional gasoline by the larger companies will make this situation more acute.

There has been some agitation to shut down refineries part of the month in order to reduce the gasoline supply. The Independent Oil & Gas Co., which has been running approximately 150,000 bbls. monthly at its Okmulgee, Okla., refinery, will only run 100,000 bbls. in June. This curtailment is being brought about by shutting down the refinery for 10 days giving many of the employes a vacation during that period.

The Barnsdall Refineries, Inc., is also curtailing the runs for June of its Okmulgee refinery by shutting down the plant the forepart of the month. Just how much crude oil will be run at the Barnsdall refinery during June has not been determined but it will not exceed 60,000 bbls. Both the Independent and Barnsdall have other refineries in the Mid-Continent with large outlets through their own stations and jobber contracts.

Oklahoma

In Oklahoma the Oklahoma City plant of the Electrol Refining Co. and the Tonkawa plant of the Northwestern Refining Co. are shut down for the month. The Electrol was just recently started up. The Northwestern plant, which is owned by the Globe Oil & Refining Co. interests, has been operating on a basis of 3,000 bbls. daily.

RUNS TO STILLS AT MID-CONTINENT REFINERIES

1928	
June 1	487,135
July 1	506,310
August 1	543,625
September 1	563,270
October 1	547,820
November 1	550,000
December 1	520,000
1929	
January 1	508,550
February 1	506,800
March 1	514,950
April 1	530,530
May 1	577,500
June 1	585,030
July 1	565,800
August 1	555,250
September 1	552,300
October 1	544,720
November 1	545,473
December 1	540,630
1930	
January 1	535,460
February 1	519,355
March 1	531,500
April 1	555,250
May 1	574,300
June 1	572,250

Outside of these two shutdowns, there were no developments of special interest in Oklahoma. Most of the plants started June on the same basis as May and expect to continue these runs over the month. The Gulf States Corp. which took over the Oklahoma City refinery of the Caravan Oil & Refining Co. is making repairs at the plant and expects to start operating next month. Victor H. Smith of Tulsa, who is president of the White Oak Refining Co. also heads the Gulf States Corp.

Kansas

The Kanotex Refining Co. which in May ran 6,000 bbls. daily to the stills of its Arkansas City plant is now operating on a basis of 2,500 bbls. daily. The company may increase the runs later in the month. This reduction was offset by an increase of 2,500 bbls. at the Argentine plant of the Sinclair Refining Co. and an increase of 800 bbls. at the Eldorado refinery of the Skelly Oil Co.

West Texas

The plants of the Blue Bonnett Refining Co., Big Lake Oil Co. and the Wickett Refining Co. are shut down. Market conditions are said to be responsible for these changes, the owners not finding it profitable to operate the plants due to the low prices received for gasoline and fuel oil.

The only increase in that area was that of the Pasotex Refining Co. (Standard Oil Co. of California) which is running 10,800 bbls. daily at its El Paso refinery.

North Central Texas

Although North Texas refiners including the Panhandle have been faced with a soft market in all products for the past 30 days, present schedules call for little change in operations over June. Unless the gasoline movement improves either through domestic or export channels, it is probable that some curtailments or temporary shutdowns will develop before the end of the month due to a lack of storage facilities.

North Louisiana-Arkansas

At El Dorado, Ark., the Kettle Creek Refining has reduced its crude oil runs from 2,800 bbls. to 1,600 bbls. Cracking units at the refinery have been shut down temporarily. The Lion Oil & Refining Co. has also reduced its runs from 8,000 to 6,500 bbls. daily, and the Houston Oil Co. at Camden to 2,000 bbls.

MID-CONTINENT REFINERY OPERATIONS

(Based on operations June 1 and May 1)

Districts—	No. of plants June 1	Daily crude cap. (bbls.)	Daily crack. cap. (bbls.)	Plants oper. June 1	Runs to stills June 1	Plants oper. May 1	Runs to stills May 1	Daily decrease June 1
Arkansas	9	44,800	16,750	9	29,750	9	33,700	3,950
Kansas	15	140,500	77,400	15	100,700	15	101,900	1,200
North Louisiana	6	58,750	21,000	4	30,100	4	28,950	*1,150
Oklahoma	46	316,300	117,050	41	217,050	43	215,750	*1,300
North and Central Texas	37	171,200	34,750	35	113,450	35	115,300	1,850
West Texas	31	150,000	44,700	26	81,200	29	78,700	*2,500
Total	144	881,550	311,650	130	572,250	135	574,300	2,050

*Increase.

REFINERY OPERATIONS IN OKLAHOMA

(Plants which have been in operation during the past year)

	Daily capacity	Runs June 1	Runs May 1
Anderson-Prichard Oil Co., Cyril	5,000	4,500	4,500
Barnsdall Refineries, Inc., Barnsdall	6,000	4,000	4,000
Barnsdall Refineries, Inc., Okmulgee	10,000	2,000	3,000
Bell Oil & Gas Co., Grandfield	4,500	2,000	2,000
Champlin Refining Co., Enid	16,000	11,000	10,000
Citizens Refining Co., Seminole	1,000	(*)	(*)
Continental Oil Co., Sapulpa	10,000	1,500	1,500
Continental Oil Co., Ponca City	30,000	18,000	18,000
Cushing Refining & Gasoline Co., Blackwell	1,800	1,500	1,500
Cushing Refining & Gasoline Co., Cushing	3,500	3,000	3,000
Deeprock Oil Corp. (Shaffer), Cushing	10,000	10,000	10,000
Eason Oil Co., Enid	5,000	3,000	3,000
Electrol Refining Co., Oklahoma City	3,000	(*)	1,200
Empire Oil & Refining Co., Cushing	5,000	4,200	4,200
Empire Oil & Refining Co., Okmulgee	4,000	4,000	4,000
Empire Oil & Refining Co., Ponca City	8,000	8,000	8,000
Garber Refineries, Inc., and Omar Refining Co., Garber	3,500	2,800	3,000
Globe Oil & Refining Co., Blackwell	7,500	7,000	7,000
Globe Oil & Refining Co., Cushing	15,000	11,500	11,500
Homaokla Oil Co., Allen	3,000	2,000	2,000
Illinois Oil Co., Cushing	3,000	(*)	(*)
Imperial Refining Co., Ardmore	5,000	2,800	2,800
Independent Oil & Gas Co., Okmulgee	5,000	3,300	5,000
Johnson Oil Refining Co., Cleveland	6,000	5,000	5,000
Mid-Continent Petroleum Corp., West Tulsa	40,000	22,000	22,000
Northwestern Refining Co., Tonkawa	3,000	(*)	3,000
Peppers Gasoline Co., Covington	1,000	750	750
Pierce Oil Corp., Sand Springs	8,000	7,000	7,000
Producers Oil Co., Bristow	2,500	1,500	1,500
Producers & Refiners Corp., West Tulsa	6,000	5,000	5,000
Pure Oil Co., Ardmore	5,000	2,000	2,000
Pure Oil Co., Muskogee	9,000	8,000	8,000
Remington Oil Co., Wewoka	2,000	(*)	(*)
Rock Island Refining Co., Beckett	2,500	3,000	2,500
Sun Oil Co., Yale	5,000	4,800	4,800
Sinclair Refining Co., Muskogee	1,000	800	900
The Texas Company, West Tulsa	15,000	15,000	15,000
Texas Pacific Coal & Oil Co., Wynnewood	2,500	2,000	1,000
Tidal Refining Co., Drumright	15,000	12,000	10,000
Transcontinental Oil Co., Boynton	2,500	2,000	2,000
Transcontinental Oil Co., Bristow	5,000	4,500	4,000
Western Oil Corp., Beckett	2,000	1,500	1,500
White Oak Refining Co., Allen	8,000	6,500	5,000
Wilcox Oil & Gas Co., Bristow	5,000	3,800	3,000
Wirt Franklin Petroleum Corp., Ardmore	4,000	2,800	2,800
Yale Oil Corp., Yale	1,500	1,000	1,000
Total	316,300	217,050	215,750

*Shut down.

REFINERY OPERATIONS IN NORTH CENTRAL TEXAS

(Plants which have been in operation during the past year)

	Daily capacity	Runs June 1	Runs May 1
American Refining Properties, Wichita Falls	6,000	3,400	3,400
Archer Refining Co., Megargel	2,000	700	700
Central Texas Refining Co., Angus	4,000	1,500	1,300
Central Texas Refining Co., Minerva	2,000	600	700
Continental Oil Co., Wichita Falls	6,000	3,000	4,000
Dale Oil & Refining Co., Electra	4,000	3,500	3,000
Empire Oil & Refining Co., Gainesville	5,000	3,600	3,600
Falls Refining Co., Wichita Falls	2,000	1,500	1,000
Gulf Refining Co., Fort Worth	10,000	6,000	6,000
Humble Oil & Refining Co., Breckenridge	2,000	1,200	1,500
Humble Oil & Refining Co., Chilton	4,000	2,500	1,500
Humble Oil & Refining Co., Neches	5,000	1,000	1,800
Iowa Park Producing & Refining Co., Iowa Park	2,500	1,250	2,000
LaSalle Petroleum Co., Burkburnett (Noble)	3,500	1,200	1,500
Macmillan Petroleum Co., Isom	8,000	6,000	6,000
Magnolia Petroleum Co., Fort Worth	12,000	5,000	5,000
Magnolia Petroleum Co. (White Eagle plant), Fort Worth	6,000	2,500	2,500
Magnolia Petroleum Co., Corsicana	5,000	5,000	4,500
Olney Oil & Refining Co., Olney	2,500	2,100	2,200
Oriental Oil Co., Dallas	5,000	2,700	3,000
Orient Petroleum Co., Wichita Falls	2,500	1,000	2,000
Panhandle Refining Co., Wichita Falls	5,000	3,800	3,700
Pampa Refining Co., Pampa (Wilcox Oil & Gas Co.)	4,000	3,000	2,500
Petroleum Refractionating Co., Pampa	5,000	3,400	3,300
Phillips Petroleum Co., Isom	15,000	11,000	11,000
Primrose Refining Co., Wichita Falls	2,500	2,200	2,000
Simms Oil Co., Dallas	5,000	3,000	3,100
Star Refining & Producing Co., Fort Worth	1,800	500	500
Superior Refining Co., Tiffin	2,000	(*)	(*)
Tarrant Refining Co., Grand Prairie	2,500	(*)	(*)
Taxman Refining Co., Wichita Falls	2,500	2,200	2,000
The Texas Company, Dallas	16,000	16,000	16,000
The Texas Company, Amarillo	4,000	3,500	3,500
Tidal Western Refining Co., Burkburnett	3,000	2,000	2,000
Texas Pacific Coal & Oil Co., Fort Worth	3,000	1,800	2,000
Texas Pacific Coal & Oil Co., Caddo	1,200	1,000	1,000
Transcontinental Oil Co., Fort Worth	5,000	4,000	4,000
Waggoner Refining Co., Electra	3,400	2,000	2,500
Total	171,200	113,450	115,300

*Shut down.

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Rumanian Well on Fire a Year, Craters

Baffles Efforts of Government Engineers to Extinguish It. American Expert Visits Scene and Describes Operations

By L. G. E. Bignell
Petroleum Engineering Editor

About May 22, 1929, the Romano-Americana Co., a subsidiary of the Standard Oil Co. of New Jersey, drilled into a large reservoir of high pressure gas in one of the wells, known as test No. 160, it was completing in Moreni, Rumania, which came in out of control and on May 28 caught fire and has since defied all attempts to conquer it.

It is estimated this well is making about 150,000,000 feet of gas per day and the pressure has been placed as high as 2,500 pounds per square inch but no actual gauge or pressure tests ever were taken as no opportunity was afforded.

During the early stages of the well before it caught fire it blew two master gates off the 6-inch pipe, with which the well is finished, and this failure was a contributing detail to the subsequent fire.

This test is located in that portion of the Moreni Field that has been developed by successively deeper stages for many years, first having been worked through shallow shafts or pits dug from the surface, and later by shallow wells until finally this very deep test was undertaken.

Because of this fact this fire has given an unusual amount of trouble for the gas has broken through the soft upper oil sand bodies and is burning in several places around the deep well. Both the oil sand and the gas are on fire at the surface making a double hazard in fire fighting.

Because of the nature of the country and the lack of fire fighting apparatus common to the oil fields of the United States the Romano-Americana Co. engineers were handicapped from the start and every piece of equipment that has been tried has been designed specially for the job and made in Rumania which has delayed operations.

Try Tunneling

While the exact conditions existing at the time the well caught fire are not definitely known it is understood that as the drill pipe was being removed from the well after it blew in out of control, the great gas pressure blew about 3,500 feet of drill pipe out of the hole when the upper part of the string had been pulled.

This long string of drill pipe shot into the air and it is thought it fell across electric light wires strung near the well and created a spark from which the gas caught fire.

After the well took fire it was decided by the Standard Oil Co.'s engineers to dig a tunnel to the well and this work was started at a place that would bring the lower end of the tunnel in contact with the well casing at a point about 70 feet below the surface.

The tunnel was completed as planned and by the use of a milling cutter a hole was drilled through all the casing strings starting with the outside 18-inch pipe and finishing in the 6-inch flow string.

It is reported that the following strings of casing have been run in Test No. 160:

Meters—	Feet	Size—
19	62.33	25-inch surface pipe
547	1,794.61	18-inch cemented*
732	2,401.57	14-inch cemented*
1,334	4,376.62	10-inch cemented*
1,414	4,639.08	8-inch not cemented*
1,462	4,796.57	6-inch flow string

*Water shut off.

A clamp was placed over the 18-inch casing and 8-inch pipe screwed into it and the milling operation was carried on through this 8-inch pipe and when the 6-inch flow string of casing was penetrated about 30,000,000 feet of gas was diverted into the gasoline plant through

M. M. Kinley

that line but this did not seem in any way to affect the gas flame above the end of the 6-inch flow pipe discharging into the air.

There must have been a gas leak in the 8-inch line in the tunnel for an explosion took place there and four men were killed and the concussion following the explosion of gas opened a number of crevices in the earth around the well and gas has been escaping through these crevices ever since, and has caught fire as described and it and the upper oil sands are burning at the surface in many places.

After the trouble in the first tunnel it was decided to dig a second tunnel starting at a point about 90° from the first tunnel, but they encountered gas in appreciable quantities and had to abandon the second tunnel before it reached its objective.

All of this work had been carried on by the engineers for the oil company and as considerable time was consumed the Rumanian government officials became concerned and it was agreed that they should join with the Romana-Americana Co. in fighting this fire.

Third Tunnel Started

It was decided to start a third tunnel at a distance of about 800 feet from the well, using a small hillock as the base for operations with the entry to the tunnel located back of the hill thus securing added safety for the operations.

This tunnel is 8'x8' square and reached the well at a depth of about 270 feet below the surface, or 200 feet below the first tunnel. In digging it gas was encountered and at first was not thought to be dangerous but after four men were killed by an explosion that occurred at the mouth of the tunnel caused by the gas becoming ignited from the flame of a cutting or welding torch being used on some work there, it was decided to line it with concrete.

The tunnel was first flooded with water and this was later pumped out and an air line run in and sufficient air circulated to dilute the gas to a safe mixture so that men could safely work in the tunnel.

At the lower end of this 8'x8' tunnel there is a large chamber dug around the well casing and in this room the future operations will be carried on.

Again it was decided to drill through each string of casing starting with the 18-inch outside casing string and a device weighing about 28,000 pounds was built for this work.

The first operation was to cut outside threads on the 18-inch pipe with a split cutting die. These threads were cut in two groups, one above and the other below the point selected as the place where the casing was to be penetrated. Flanges were clamped and screwed into place over the threaded portion of the pipe, these clamps serving as guides and supports for the body of the main castings that carried the cutting mechanism.

Before the actual drilling of the casing was started it was decided it would be safer if the 8'x8' tunnel was supplemented with an interior manway through which the men could pass to and from the chamber, and this tunnel within a tunnel was built of wood and covered with building board and made gas tight.

Equipment Used

The next operation was to run two parallel strings of air pipe in the 8'x8' tunnel and terminate them so that one pipe carried fresh air into the runway for the men while the second pipe created circulation of the gas that might be encountered at the well and drove it out of the chamber and to the surface through the space left between the outside of the smaller manway and the inside of the large tunnel.

The casting that was clamped to the 18-inch pipe to carry the mechanism for cutting into the 6-inch flow string of casing, and also penetrating each of the other strings of casing as encountered, was provided with a by-pass for gas that might be encountered and this by-pass ended in the space outside of the small manway and the gas could then be forced to the surface.

The equipment to drill the pipes was housed in two very large steel castings that were made in halves and fitted snugly around the 18-inch casing and it was all held in place by the two flanges on the 18-inch pipe and by bolts passing through flanges on each half of the casting.

Inside the casting there were guides to direct the cutting tool against the casing and maintain it in the proper position, and outside on the shell of the casting there was a set of gears that fed the drill into the pipe as cutting progressed.

The power was supplied by an electric motor belted to a countershaft and from this countershaft there led other shafts with reduction gears and the necessary mechanism to rotate the cutting tool, feed it and withdraw it as conditions required.

Cutting Tool Employed

The cutting tool used in the first attempt to drill the casing in the upper tunnel had the general appearance of a fishtail bit with hardened cutting edges. In the flat portion of the bit there was a large hole drilled and when the 6-inch casing was penetrated the tool was turned over so the gas could escape through this hole into the 8-inch pipe

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(c) Ewing Galloway, N. Y.

General view of fire at Test No. 160 Romano-Americana Co. in Moreni, Rumania, taken before the ground caved around well. The well is at the right and the gas burning from top of 10-inch pipes at left comes from one method of trying to control well. The long tunnel described in story is started back of the hill forming the background of the picture.

Propose Improvement in Mud Mixing

With Large Investments in Drilling Deep Wells the Adapting of Machinery to Mud Handling Is Justified

By L. G. E. Bignell
Petroleum Engineering Editor

It is a well known fact that the drilling of the deep holes now common in many fields in this country and abroad is involving the expenditure of such large sums of money that make these operations of major importance and after the hole has been drilled below 5,000 feet it is most essential that it be carried to completion with the minimum of delay.

As the rotary drilling method is used in nearly every instance the condition of the mud fluid plays a very important part and investigations have been started in the California oil fields that are giving consideration to the application of classifying and thickening apparatus used in many other industries and there seems to be no logical reason why the experience gained in those industries should not be applied to the drilling of rotary wells.

In this issue of The Oil and Gas Journal there are two articles dealing with muds, one by C. P. Parsons of the Halliburton Oil Well Cementing Co., Duncan, Okla., and the other by E. L. Decker, of Martin Decker Corp., Long Beach, Calif.

Mr. Parsons in his article describes the purposes of this mud fluid in drilling wells and Mr. Decker describes some of the existing plants in California where treatment of mud fluids is being carried on either in a commercial way, where one plant serves many wells, or in individual plants treating mud for one well or group of wells on a lease.

As the muds are required to serve several purposes in well drilling it seems reasonable to advocate the use of every precaution in preparing this fluid and it has been found that the old method of allowing the cuttings to settle out in pits dug in the earth adjacent to the well is not proving entirely satisfactory.

Cost of Pits

In the first place the cost of digging these pits is becoming an item of considerable magnitude and as they are not of any use after the well is completed it would seem that salvagable equipment would be preferable.

In a recent statement the United States Bureau of Mines covers the cost of drilling wells in the Oklahoma City Pool, which is typical of all deep well areas in this country, in which they say:

"Contract prices for drilling generally are $11 per foot, making the drilling expense alone of a 6,500-foot well some $71,500. Derricks for these deep holes range from 122 to 170 feet in height. The cost of the smaller derricks is around $5,000, installed. Two slush pits and a settling pit at each well call for excavation of around 1,600 cubic yards of earth at a cost of about $1,000. If a concrete foundation is prepared for the derrick there is more excavating to be done and more expense to be met.

"Water also is necessary, not only to feed the boilers but for use in drilling operations. While the first 2,000 feet of hole are being drilled, 3,000 bbls. daily is required and this tapers down to 1,500 bbls. daily as the bottom of the 6,500-foot hole is reached. Total water requirements in completing a well are estimated at 140,000 bbls. And water, in the oil fields, sometimes sells for $1 a barrel."

The excavations referred to are usually two 25'x6'x90' slush pits, one settling pit, 40'x6'x10', and one large storage pit 90 feet square and about 2 feet deep. Excavation is now being done with gasoline engine powered shovels.

Purpose of Pits

The purpose of these pits is to permit the cuttings to settle out of the mud and recondition it for return to the hole. The pits are fitted with wooden baffles or dams that reduce the velocity of the current of mud fluid from the point of entry to the place of discharge in the pit and this helps to hold the cuttings back and drop them to the bottom, but if the mud is jetted from one pit to another, as is a usual occurrence under certain conditions of operation, the velocity is again increased and sand is moved with the mud.

In Oklahoma City it was found desirable to add the third pit, the 40'x6'x10' one, across the ends of the two 90'x6'x25' pits, and place two wooden dams in it. The 90-foot square pit back of the two main pits is used for storage purposes only.

The natural laws that govern the settling of the heavier particles out of the mud stream are well known and have been used in ore dressing in plants treating all kinds of mineral for many years, and from those uses the machinery designed for milling plants has been introduced into many other industries with good success.

The two forces that act upon the particle in the mud fluid are velocity of the mud current in a horizontal direction across the pit and the pull of gravity in a vertical direction, or downward, and the resultant of these two forces will determine the distance required to permit the heavier particles to settle to the bottom of the pit.

The pull of gravity as it works upon the heavier particle, or cutting, is effected by the density or specific gravity of the mud which is the carrying medium. If this mud has a gravity of 1.32 and the particle has a gravity of 2.6 the pull of gravity that is effective is the difference between these two values, or 1.28. This can be well illustrated by considering a piece of iron with a gravity of 7.5 that has been placed upon mercury with a gravity of 13.58—the iron cannot sink.

The character of the mud fluid also has its influence upon the rate of settling of the cutting, and the combination of these several factors have at times made it difficult to remove the sand particles from the mud fluid as rapidly as the drilling conditions required and the mud has gone back into the hole with an appreciable amount of these cuttings still in the mud fluid.

To correct this condition by the natural settling methods now common to rotary operations, that is to dig longer and deeper pits, will only add to the cost of excavation work, and in many instances it is impossible to find the required amount of clear space adjacent to the well to permit of the increase in pit sizes.

Mud Mixing Plants

In the Oklahoma City Pool it now semes quite possible that the drilling will extend into the city itself and in that case town lot drilling will be carried on and pits of any kind will not be available for the space around the well will be too small to permit of them being dug. This will lead to something like the conditions in several California fields where the mud mixing plants have been located at some point where mud making clays or shales were available and the pre-

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Treatment of Mud Fluid in California

Difficulties Encountered and Methods of Handling Them Described. General Conditions in Deep Sand Fields

Prepared by E. L. Decker
Martin-Decker Corp., Long Beach, Calif.

Great strides have been made in the improvement of drilling conditions through study and improvement of mud fluid, especially in our recent deep drilling campaign. Much more can be expected as time goes on and improvements develop to lower the cost of rotary drilling from scientific study of fluid itself and drilling conditions. The difficulties encountered and the methods of overcoming them in the handling of the mud fluid in California are undoubtedly paralleled by the conditions and improvements in the Mid-Continent and Gulf Coast sections.

I will simply discuss in general the conditions in the four major deep sand fields as they are found and the manner in which they are treated on the West Coast, hoping that there may be some new points and something of interest that have not been encountered in other sections.

Ventura

At Ventura Avenue formations drilled are devoid of mud making material. Consequently, the problem of obtaining drilling mud is very important. F. W. Hertel and E. W. Edson of the Associated Oil Co. have prepared an excellent paper outlining the methods of reconditioning the mud in this field, which was presented at the New York and Los Angeles meetings of the American Institute Mechanical and Metallurgical Engineers in February and March, respectively. The accompanying pictures show some of the apparatus used in this field to assist in the reduction of mud expense for the wells. A great deal of the formation is hard sand which runs as fine as 200 mesh, together with considerable coarser material. It is very difficult to get this out of the mud and as a result in the earlier days of the field a great many strings of drill pipe and casing were frozen. It was in this field that the practice originated, it is believed, of keeping the standard end of the rig continuously turning over so that in case of a power interruption or break-down on the drawworks, the pipe could be removed out of the hole with the calf-wheel at a moment's notice. A fine sand settles around the pipe so that in a very short time it is frozen. As a result it was found necessary to give the mud problem much more care than it had previously been given in other fields.

In the ordinary settling system much space for handling was required at each well. On account of the expense of furnishing fresh mud, discarding was out of the question. Consequently it was decided to concentrate the making and reconditioning of the mud at a central point, and the results have been so successful that installations involving a large investment are being made to more efficiently handle the problem, even though these are still somewhat experimental. Small scale experiments, however, proved that the principle was feasible and it had been

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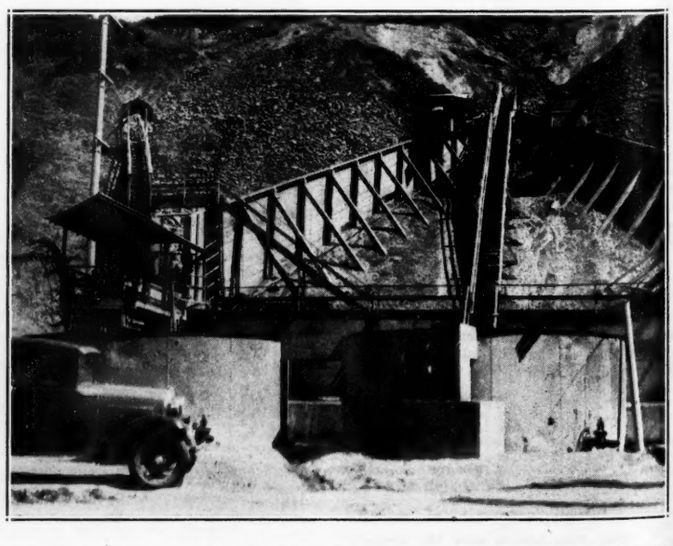


General view of a central mud mixing plant at Ventura Field, California. Shale is dumped from trucks into the hoppers and is washed by water into the mixer shown at the left of the picture. The mixture is then run into the tanks in the foreground and checked for weight before it is delivered into storage tanks.

Need Curtailment in Refinery Runs

Government Report Shows Continued Balance in Crude Oil Supply and Demand but Over-Supply in Refined Products

By C. O. Willson

The balancing of crude oil supply and demand, the aim of the oil industry since early in the year, was continued through April according to the latest report of the Bureau of Mines which shows a withdrawal from crude inventories for the month of 2,454,000 bbls.

The lowering of crude oil stocks coupled with an unexpected reduction of 804,000 bbls. in gasoline stocks, made April one of the most constructive months of the past year and the development no doubt accounts for the strength shown in markets, the latter part of the month, reflected in higher prices for crude oil and gasoline in several areas. The fact that this market situation, particularly gasoline has since weakened indicates that this favorable situation in regard to supply and demand did not continue through May, as expected. Available statistics for May lead to the conclusion that the reversal in conditions was due to the expansion in refinery operation rather than the increase in crude oil production, with weather conditions retarding gasoline consumption in several areas.

The increase in crude oil production during April which had been generally known from the estimates of current production, fortunately was absorbed by the increased crude oil runs to stills. The daily average production increased from 2,496,000 bbls. in March to 2,573,000 bbls. daily in April. Crude oil imports also increased from 156,000 bbls. daily to 193,000 bbls. so that the total supply of crude oil in April was 114,000 bbls. daily greater than in March. Refiners absorbed the greater part of this enlarged supply by increasing their crude oil runs from 2,589,000 bbls. in March to 2,681,000 bbls. in April.

Oklahoma accounted for 48,000 bbls. daily of this increase in crude oil production and Texas 18,000 bbls. The remaining increase came from several of the smaller producing states, California showing a decrease of 9,000 bbls. daily to 626,000 bbls. The new Oklahoma City Field passed the 100,000 bbls. daily mark during April and accounted for all of the increase in Oklahoma.

Refinery Situation

Due to the weakness which has been apparent in the refinery tank car market, interest in the Government's report for April centers in the statistical situation of gasoline. Outstanding in the month's report is the fact that refinery shipments of gasoline were only 7 per cent over April of last year. The refiners for the first three months had an increase of approximately 14 per cent in their shipments and that situation more than curtailment of operations was responsible for the fact that the increase in gasoline stocks was less than for the same period in 1929.

Due to the smaller gain of 7 per cent in domestic requirements the increase in total demand for the first four months of this year has been reduced to 12.6 per cent. Many students of the industry's statistics have been confident that the record increase in gasoline demand the early part of the year would not continue as the reports of later months became available. The fact that exports have been showing an exceptional gain is also pointed to as temporary with a return to normalcy later in the year. April exports of gasoline were almost 25 per cent greater than in April of last year and for the first four months 23.3 per cent greater.

The obvious situation shown by the Government figures for April when combined with available current data, is that refiners have not yet reduced the large excess accumulations of gasoline with which they started the first of the year. On the whole as shown in the accompanying table the accumulations since the first of the year have not been as great as they were in 1929 for the same period. Nevertheless the gasoline stocks on May 1 were 7,396,000 bbls. or 15.7 per cent greater than on the same date

(Continued on Page 70)

CRUDE OIL AND REFINERY PRODUCTS SITUATION SUMMARIZED

(Bureau of Mines Reports—First 4 Months 1930 and 1929)

SUPPLY AND DEMAND—CRUDE OIL (Bbls.)

First 4 months	Total supply	Total demand*	Excess Supply	Excess Pct.	Domestic production	Imports	Domestic Demand*	Exports	Stocks April 30*
1930	328,818,000	333,667,000	†4,849,000	†1.4%	308,439,000	20,379,000	326,284,000	7,383,000	529,677,000
1929	350,006,000	331,186,000	18,820,000	5.7%	320,297,000	29,709,000	324,238,000	6,948,000	509,608,000
Increase	‡21,188,000	2,481,000			‡11,858,000	‡9,330,000	2,046,000	435,000	20,069,000
Increase	‡6.4%	0.7%			‡3.7%	‡31%	0.6%	6.2%	3.9%

*Derived from government data for comparative purposes. Includes some California residual fuel oil. †Excess demand. ‡Decrease.

SUPPLY AND DEMAND—REFINERY PRODUCTS—GASOLINE (Bbls.)

First 4 months	Total supply	Total demand	Excess Supply	Excess Pct.	Domestic production	Imports	Domestic Demand	Exports	Stocks April 30
1930	151,207,000	139,904,000	11,303,000	8.0%	§146,487,000	4,720,000	117,818,000	22,086,000	54,435,000
1929	138,163,000	124,216,000	13,947,000	11.2%	§136,109,000	2,054,000	106,301,000	17,915,000	47,039,000
Increase	13,044,000	15,688,000			10,378,000	2,666,000	11,517,000	4,171,000	7,396,000
Increase	9.4%	12.6%			7.6%	130%	10.8%	23.3%	15.7%

KEROSENE

1930	18,127,000	19,098,000	†971,000	†5.0%	18,074,000	53,000	12,560,000	6,538,000	8,068,000
1929	18,168,000	19,672,000	†1,504,000	†7.6%	18,084,000	84,000	12,607,000	7,065,000	7,497,000
Increase	†41,000	†574,000			†10,000	†31,000	†47,000	†527,000	571,000
Increase	†0.2%	†3%			†0.05%	†37%	†0.4%	†8%	7.6%

LUBRICATING OIL

1930	11,929,000	10,549,000	1,380,000	13.0%	11,920,000	9,000	7,051,000	3,498,000	9,649,000
1929	11,300,000	11,113,000	187,000	1.7%	11,290,000	10,000	7,295,000	3,818,000	8,527,000
Increase	629,000	†564,000			630,000	†1,000	†244,000	†320,000	1,122,000
Increase	5.6%	5%			5.6%	†10%	†3.4%	†8.4%	13.1%

FUEL AND GAS OIL

1930	137,745,000	(‡)			128,745,000	9,000,000	(‡)	13,472,000	¶33,650,000
1929	149,883,000	(‡)			146,158,000	3,225,000	(‡)	11,986,000	¶33,404,000
Increase	†12,138,000				†17,413,000	5,275,000		1,486,000	246,000
Increase	†8.1%				†12%	14.1%		12.4%	0.7%

PETROLEUM WAX (Lbs.)

1930	229,411,000	178,967,000	50,444,000	2.8%	218,680,000	10,731,000	87,738,000	91,229,000	241,853,000
1929	234,617,000	174,274,000	60,343,000	34.6%	223,260,000	11,357,000	76,059,000	98,215,000	170,627,000
Increase	†5,206,000	4,693,000			†4,580,000	†626,000	11,679,000	†6,986,000	71,226,000
Increase	†2.2%	2.6%			†2%	†5.5%	15.3%	†7.1%	41.7%

*Excess demand. †Decrease. ‡Not available. §Includes benzol production and natural gasoline used elsewhere than at refineries east of California. Note—Total supply equals domestic production plus imports. Total demand equals domestic demand plus exports. Data on demand for refined products are based on refinery shipments. ¶East of California.

CRUDE OIL RUNS TO STILLS AND TOTAL ALL OILS (Bbls.)

First 4 months	Total crude to stills	Domestic crude to stills	Foreign crude to stills	Natural gasoline production	Gasoline recovery crude oil‡	Total supply all oils*	Total demand all oils*	Stocks all oils April 30*
1930	313,263,000	294,058,000	19,205,000	17,662,000	46.13%	361,431,000	351,239,000	692,626,000
1929	312,023,000	286,544,000	25,779,000	16,307,000	43.17%	373,230,000	335,820,000	651,873,000
Increase	1,240,000	7,514,000	†6,574,000	1,355,000	2.96%	†11,799,000	15,419,000	40,753,000
Increase	3.1%	2.7%	26%	8.4%		†3.1%	4.6%	6.2%

*Total all oils includes crude oil, refined products, natural gasoline and benzol. †Decrease. ‡Includes natural gasolines blended at refineries.

Theory of Antiknock Motor Fuels

Cause of the Knock in Motors and Refining Processing Methods Evolved to Overcome It. Progress of Investigations

By W. T. Ziegenhain

The subject of antiknock motor fuel remains a mystery to the average motorist, but he is content to pay the nominal 3-cent premium and measures the return in the ability of his engine to climb hills faster; to operate more smoothly and, most noticeable of all, he can climb hills without that aggravating "ping" with each revolution of the motor.

The technologist who developed antiknock motor fuels would like to dispense with the subject equally satisfied, but he is not permitted to do so. He is able to manufacture antiknock gasolines and knock suppressing materials to blend with gasolines. He measures their relative values and identifies many materials as suitable antiknock materials but there still remains a wide diversity of opinion on just what causes the knock and, similarly, no one has prepared a theory which has answered all questions regarding why the knock is suppressed.

Originally, the theory was promulgated that carbon deposited on the upper walls of the cylinder and on the head of the motor until the piston head actually struck the carbon deposit. This theory was soon proved wrong and the true cause of the knock has been under investigation since 1915.

About that time the General Motors Corp. began to find trouble installing the little Delco lighting system in certain localities because of the strict local ordinances regarding the storing of gasoline. It is said the company then experimented with the use of kerosene and new high-flash materials as a substitute for the gasoline. This introduced the problem of knocking to the company and prompted the research work which followed. A very extensive program of investigation was outlined under the direction of Thomas Midgley, Jr., and T. A. Boyd. They tried out 33,000 different chemicals. One of the first materials to show encouraging results when blended with gasoline was iodine.

It was during years of research work in these laboratories that, through a process of elimination, tethaethyl lead was finally singled out as the most effective knock-suppressing material, and it is now well established as a standard. Benzol, alcohol and other hydrocarbon fuels were found to have some value as blending materials with gasoline, and benzol, in particular, was given considerable prominence.

Refining Processing Methods

More recently, changes in refining processing methods have tended to materially increase the natural antiknock value of the gasolines, but there are certain inherent characteristics of the crude which governs the antiknock value of the gasoline to a large degree. The chemical composition of the gasoline naturally varies in different localities, depending upon the characteristics of the crude oil from which it is manufactured.

It so happens that the so-called paraffin base crudes yield gasolines with bad knocking qualities. The so-called asphaltic base crudes or mixed base crudes produce gasolines having a lesser tendency to knock. Beyond the fact that there is a difference in the chemical composition of gasolines, there is no satisfactory explanation why one gasoline will knock and another one will not.

It is equally difficult to state why gasolines made by the cracking process have higher antiknock values than gasolines made from the same crude. Similarly, gasolines made by the vapor phase cracking process have a higher antiknock value than gasolines made from the ordinary cracking process. Thus, a refiner may manufacture from the same crude a straightrun gasoline which will knock in the average engine, an ordinary cracked gasoline which will not knock in the average car, but will knock in a car equipped with a high-compression motor, and he may make a third gasoline by vapor phase cracking which will satisfactorily operate in any of the present-day motors. This relationship is, of course, given as a general condition and it does not mean that straightrun gasolines may be condemned, nor that ordinary cracked gasoline is not as satisfactory a motor fuel as vapor phase gasoline, but does hold true with respect to the general experience.

With so much attention paid to the subject of antiknock motor fuels, technologists are endeavoring to find out just what happens within the explosion chamber in an effort to discover why a knock

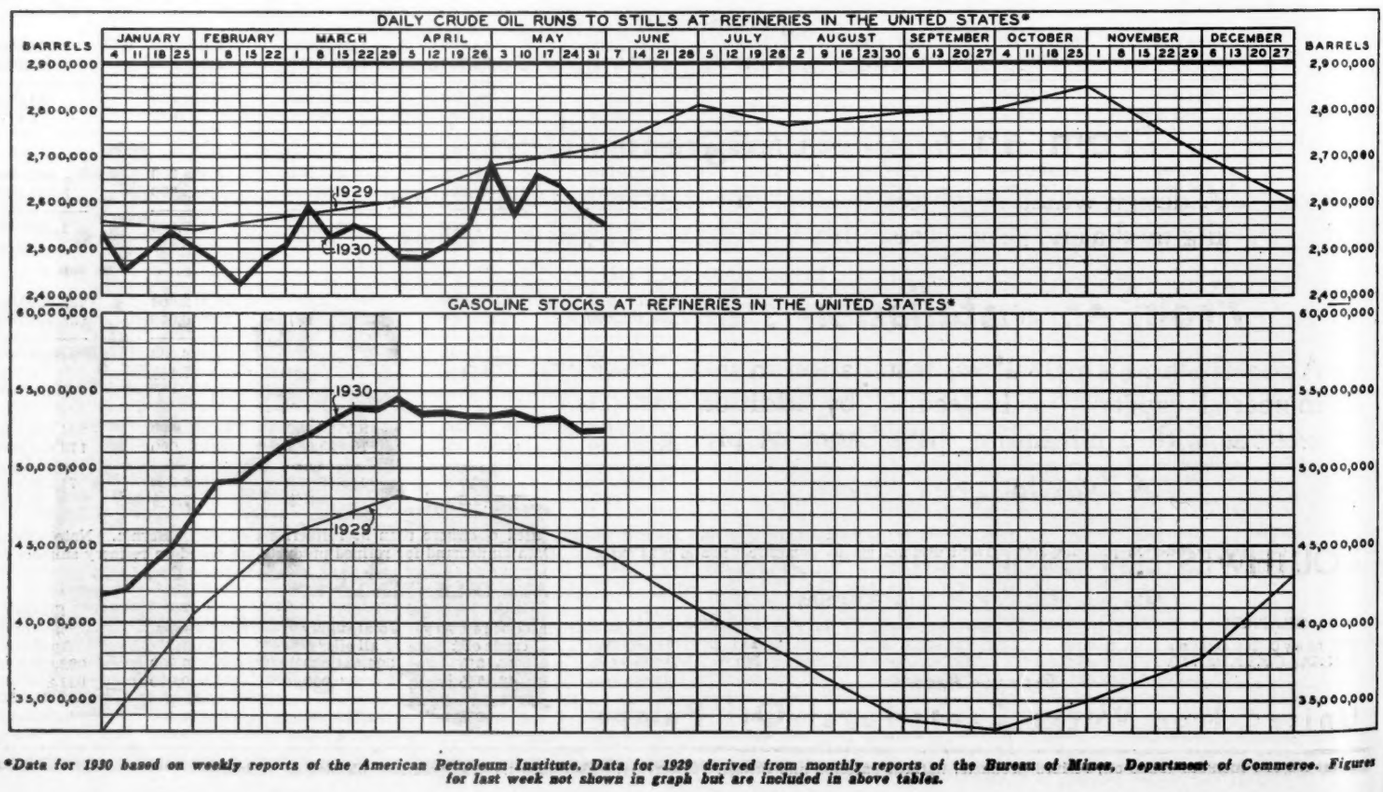
(Continued on Page 140)

AMERICAN PETROLEUM INSTITUTE WEEKLY REFINERY STATISTICS

The weekly report made to the American Petroleum Institute on refinery statistics—crude runs to stills, gasoline stocks and gas and fuel oil stocks in barrels—for the week ending June 7:

	Week ending June 7				Week ending May 31				Week ending January 4			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
East Coast	100.0	541,500	9,069,000	8,302,000	100.0	480,570	9,039,000	7,729,000	100.0	454,857	5,998,000	7,431,000
Appalachian	91.0	81,500	1,785,000	820,000	91.0	85,143	1,807,000	835,000	91.6	75,571	1,282,000	805,000
Indiana, Illinois, Kentucky	99.6	327,000	8,347,000	3,964,000	99.6	326,713	8,355,000	3,896,000	98.6	289,800	5,483,000	3,505,000
Oklahoma, Kansas, Missouri	89.8	293,100	4,803,000	4,656,000	89.8	310,570	4,861,000	4,442,000	87.7	263,428	3,604,000	3,277,000
Texas	90.8	582,500	7,061,000	10,440,000	90.8	572,430	7,423,000	10,340,000	90.7	539,857	6,590,000	13,757,000
Louisiana and Arkansas	96.8	165,850	2,470,000	2,083,000	96.8	174,570	2,495,000	1,835,000	96.8	160,000	2,161,000	4,499,000
Rocky Mountain	93.6	58,300	2,772,000	1,142,000	93.6	62,710	2,787,000	1,127,000	93.3	41,614	2,273,000	973,000
California	99.3	621,500	16,380,000	106,982,000	99.3	553,430	15,948,000	107,389,000	99.3	642,857	14,826,000	109,770,000
Total United States	95.8	2,671,250	52,687,000	138,389,000	95.8	2,566,136	52,715,000	137,593,000	95.4	2,468,285	42,217,000	144,017,000
Texas Gulf Coast	100.0	442,500	6,451,000	7,517,000	100.0	422,300	6,205,000	7,458,000	100.0	429,585	5,579,000	10,792,000
Louisiana Gulf Coast	100.0	123,000	2,053,000	1,162,000	100.0	119,850	2,087,000	989,000	100.0	108,514	1,877,000	3,818,000

(1) Per cent refinery capacity represented. (2) Daily crude runs to stills. (3) Gasoline stocks. (4) Gas and fuel oil stocks.



*Data for 1930 based on weekly reports of the American Petroleum Institute. Data for 1929 derived from monthly reports of the Bureau of Mines, Department of Commerce. Figures for last week not shown in graph but are included in above tables.

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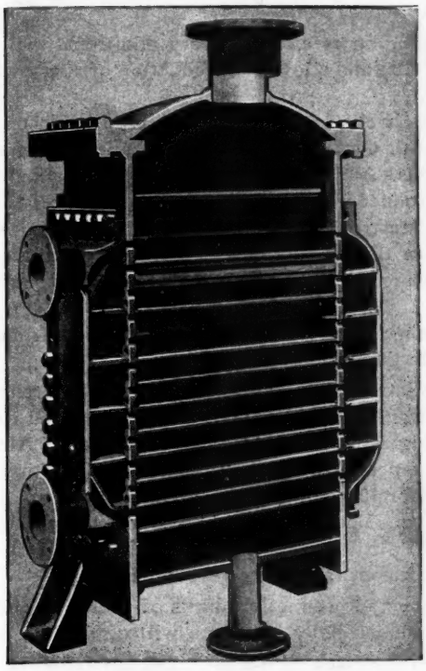

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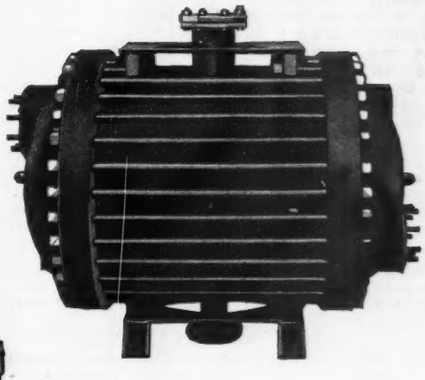

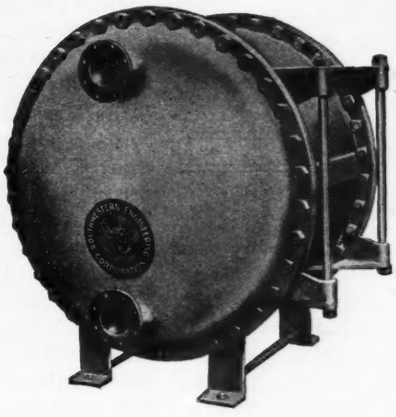

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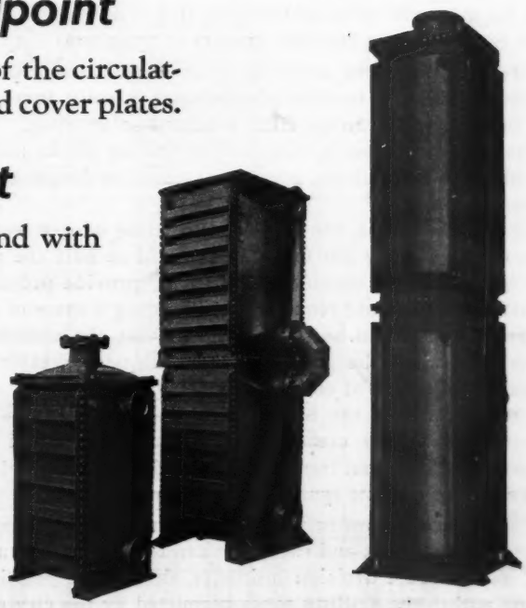

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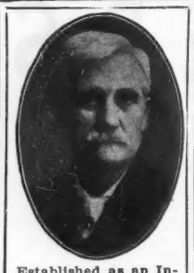

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TOWN LOT DRILLING

The decision of the district court judge at Oklahoma City that the city council, having established drilling zones within the city limits, could not restrict drilling within those districts jars the notion that operations inside the municipality could be confined to one well to the forty acres or some reasonable restraint.

While awaiting the review by the state supreme court of the legal aspects some attention may profitably be given to the economics of the whole situation from the respective standpoints of the city, the investors in town lot drilling and the oil industry at large.

In each and every case all sane and sound thinking is against this frenzy for immediate drilling.

The far-spread peril resulting from one of these deep high pressure wells breaking out of control was shown in the case of the Sudik well. It is inconceivable that anything short of a veritable craze for oil could think of bringing that risk within less than half a mile from the main business district of Oklahoma City.

Already indeed the creation of drilling zones within the city has caused talk of insurance companies greatly increasing their rates or even withdrawing from a hazard so reckless.

The fact, of course, is that drilling on city blocks must, because of production difficulties, greatly increase the danger of wells getting out of hand.

Take, for example, the suggested drilling of one well to a city block, or 300 feet by 300 feet. This would be half the normal distance between wells outside the city. To provide proper facilities for drilling mud would require ponds needing a space of 210 feet by 90 feet. Room would be so constricted that the chances of using lighter mud would be greater with consequent greater chance of the well getting out of control.

A wild well like the Sudik or Sigmon would spray oil over a large part of the city, creating a fire hazard that would compel the suspension of business, transportation and even household activities lest a spark or a flame ignite the inflammable vapor.

A fire breaking out in such conditions would probably defy efforts to extinguish it and its extent can only be conjectured.

If, as the court decision intimates, there is no restriction upon drilling within the drilling zones permitted by the city council, the chances are that, instead of one well to a block, there would be actual town lot drilling, on 50 or 100-foot lots, creating all the greater risk because of lack of room for proper drilling equipment and the contiguity of operations.

The thought that property in less valuable localities might profitably be sacrificed for the hope of getting oil takes no account of the general danger of such operations to the city at large.

Looked at from the investor's standpoint the risk should be just as apparent.

Hopes of "getting their money back in 35 days" are absurd, in the first place, because every well, after being completed and tested for potential, is required to be shut in for 65 days. After that, under the proration rules, a well is allowed to run only two days out of twelve, or five days a month.

And if town lot drilling is allowed every additional well will reduce the producing time and allowable production of every well in the field.

With 250 producing wells and an allowable production of 125,000 barrels in the South Oklahoma City Pool proper, the average production was 500 bbls. Add the 300 drilling wells, rigs and locations and those 550 producers will reduce average daily production to but 225 bbls. An unrestricted town lot drilling campaign on top of that will bring down the production to a point where there will be little chance of getting the money back in 35 months to say nothing of 35 days.

And who can guess what conditions may be three years from now in Oklahoma City or in the industry itself?

Besides the immediate hazard of loss through fire, intensified by the conditions of town lot drilling there will be the added risk of crooked holes resulting from frenzied haste in drilling. Already there has been an instance of wells drilling into one another and tests started on one 50 or 100-foot lot may be over on the adjoining block at 4,000 feet down. Those who may discount this possibility cannot ignore the probability that crooked holes will interefere with production when the attempt is made to recover the oil.

Considering the time and production limits of proration and the hazards of fire and crooked holes investors will do well to study the situation from every angle before they put their money into such projects, as the chances are they would be much better off if they kept it in the banks at 4 per cent.

From the standpoint of the industry an epidemic of town lot drilling would be ruinous, particularly at a time when the market is in a very precarious position from a gasoline standpoint.

State production is already far beyond the required demand. A flood of oil from a drilling orgy within the city would force further restriction upon operators outside with the plain alternative of a sweeping cut in price. The experience at Santa Fe Springs, only now being adjusted, should be a standing object lesson everywhere. Those who insisted upon defying common sense and persisted in overproduction finally ran up against a price cut that could not be ignored in any sort of calculation on continued overdrilling.

The same thing is certain to follow any like situation at Oklahoma City. The men and companies who are in the oil industry permanently cannot allow their business to be ruined by a reckless drilling frenzy. They cannot be obliged to move and store oil at a loss.

Besides the material damage inflicted on the oil industry by adding to the burden of storage and depressing the markets, both crude and refined, these periods of reckless drilling offer opportunity for countless schemes of promotion whose exploiters count on getting "theirs" from the sale of stock regardless of any oil production. Their thousands of victims cannot distinguish between the legitimate oil companies and these promotion sharks and the oil industry at large is branded for something it had nothing to do with and was as anxious to prevent as the dupes themselves would have been had they taken the trouble and precaution to make the slightest investigation in responsible quarters before handing over their cash to their victimizers.

These are the elements of danger in the Oklahoma City situation which that city for its own good name and safety should do its utmost to correct before they get out of hand.

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S. S. Smith
Shell Petroleum Corp.

Refiners have lately come more and more to realize the importance of natural gasoline. The motoring public, educated by sales propaganda, asks for high test or volatile gasoline. Research provides large amounts of data proving the importance of proper volatility. Recent work very definitely correlates the A.S.T.M. distillation with certain phases of motor performance. We now know that ease of starting and the 10 per cent point of the A.S.T.M. are closely related. We know that acceleration depends on effective volatility which can be approximately predicted from the intermediate distillation points between 35 and 60 per cent. Dr. G. G. Brown will tell us in his paper that the best index of the vapor-lock characteristics of a motor fuel is its vapor pressure. Throughout the last year, the Natural Gasoline Association has been engaged in research leading to new specifications. At the time of writing this paper the committee in charge of this work is not yet ready to report its new specifications. This committee, has however, assembled a vast amount of data which has been made available to those of us on this program. Since it is the purpose of this paper to describe blending values of natural gasoline the first step must be to define the natural gasoline.

At the last Natural Gasoline Association convention, Oberfell and Alden of Phillips Petroleum Co. passed out an article describing the relationship existing between the 100-degree evaporated point and the 140-degree evaporated point of natural gasoline. After working with this original data for several months, it was evident that, while the central portion of the curves worked out fairly accurately, the extremities for low butane and pentane composition and high butane and pentane composition were incorrect. This original data, as I understand it, were compiled from the results of a great number of analyses of natural gasoline made in the Phillips laboratory. In order to check these data we made a number of cuts of natural gasoline which corresponded with the natural proportions of normal hydrocarbons and their isomers as found in the average gasoline. Then using pentane-free bases from several widely separated plants, a number of synthetic blends were made, using pentane, butane and propane as the variables. From the A.S.T.M. distillation of these synthetic samples we then constructed Chart No. 1 which is attached. We have worked with this chart for six or eight months in our organization and have found, in actual practice, that analyses can be checked on individual components within 2 per cent with extreme regularity.

With this chart then we can evaluate the percentage composition of butane and lighter from the 100-degree evaporated point and the composition of pentane from the 140-degree evaporated point. No corrections for slope of the distillation curve are used with this chart, direct readings being made from the intersection of the 100-degree and 140-degree points which correspond to percentage butane and lighter and percentage pentane in the sample. Chart No. 1 by itself gives us no index of the differentiation between propane and butane in natural gasoline. The mathematical relationship between the vapor pressure of propane and butane is quite evident.

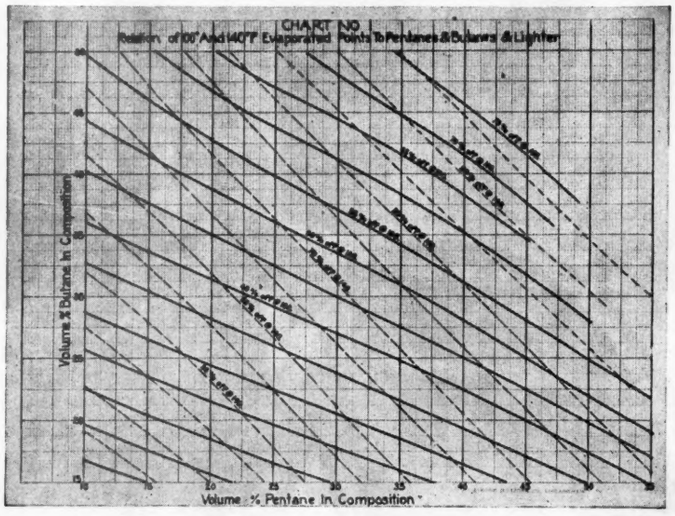


CHART NO. 1
Relation of 100° And 140°F Evaporated Points To Pentanes & Butanes & Lighter
Volume % Butane In Composition
Volume % Pentane In Composition

Chart No. 1.

Vapor Pressure

By calculation we find that substitution of 1 per cent of propane for 1 per cent of butane in the natural gasoline gives us an increase in vapor pressure on 1.8 pounds Reid. For purposes of ease of calculation, we use 2 pounds as the factor indicating composition (not substitution) of propane in any natural gasoline. Now it will be seen that having determined the percentage pentane and the percentage butane and lighter from Chart No. 1 we can by reference to Chart No. 2 compare these known quantities and the observed vapor pressure of the sample with the vapor pressure of a propane-free gasoline of same butane-pentane composition. The difference between the observed vapor pressure and Chart 2's vapor pressure in pounds Reid, divided by two, is then the per cent propane in sample.

We have now determined close relationship between the distillation characteristics and the Reid vapor pressure which gives us an accurate analysis of the natural gasoline which we are going to use for blending. In view of the fact there are no determined specifications for the new grades, as yet, in this paper consideration must be given to certain gasolines which can be assumed to be representative of the grades of gasoline now manufactured. It is fair to assume that, regardless of what type of specification is adopted, such specification will not materially change the types of gasoline which are now being manufactured by the various companies using modern plants.

Distillation Range

The Natural Gasoline Association's recent questionnaire to all natural gasoline manufacturers has given us a vast array of figures covering the distillation ranges and the vapor pressures on gasolines as currently made. For a number of months, in our own organization, we have used the Reid vapor pressure and the 100-degree distillation point as indices of the degree of stabilization or rectification obtained from field rectifying units. Chart No. 3-A plotting per cents off at 100 against Reid vapor pressure shows four lines representing zero, 1, 2 and 3 per cent propane. The base line for zero per cent propane passes roughly through the 28 per cent pentane point at 10 per cent of butane composition and through the 26 per cent pentane point at 40 per cent butane composition. A line drawn through 11½-pound Reid as base point with the same slope, represents three-quarters per cent propane, and/or 24 per cent pentane at 20 per cent butane composition point, and 23 per cent pentane at 40 per cent butane.

This line we have used as indicating the vapor pressure of average commercially propane-free gasoline and have instructed plant superintendents to keep their rectifier operations in line with practice which would produce gasolines which, at any per cent off at 100, would not exceed this base vapor pressure line. If we be permitted to assume, and the assumption is borne out by N.G.A.A. figures covering 1,250,000 gallons of gasoline production daily, that a base line of 10 pounds plus one-half per cent off at 100 is representative of the average pentane content well rectified propane-free gasoline, then a study of blends as made with gasoline following along this line should be instructive.

Pentane-Butane Content

As most of you know, nearly any natural gasoline, if rectified, becomes a "AA" gasoline unless the gravity is too high. Excessive gravity, of course, is

(Continued on Page 94)

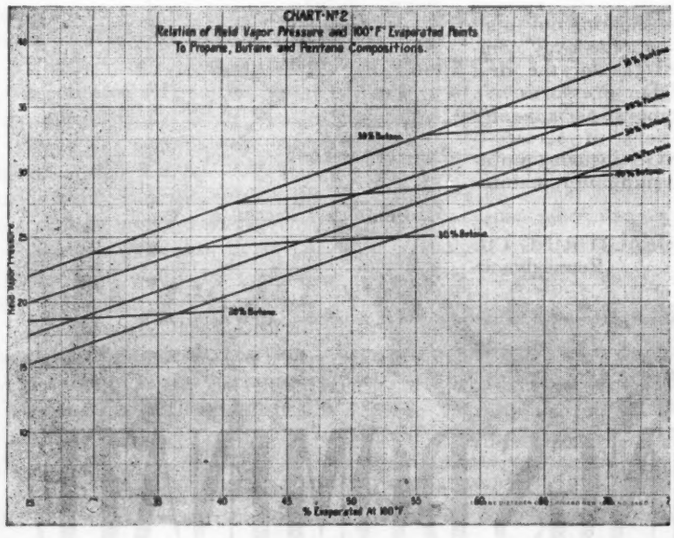


CHART-N°2
Relation of Reid Vapor Pressure and 100°F. Evaporated Points
To Propane, Butane and Pentane Compositions.
% Evaporated At 100°F.

Chart No. 2.

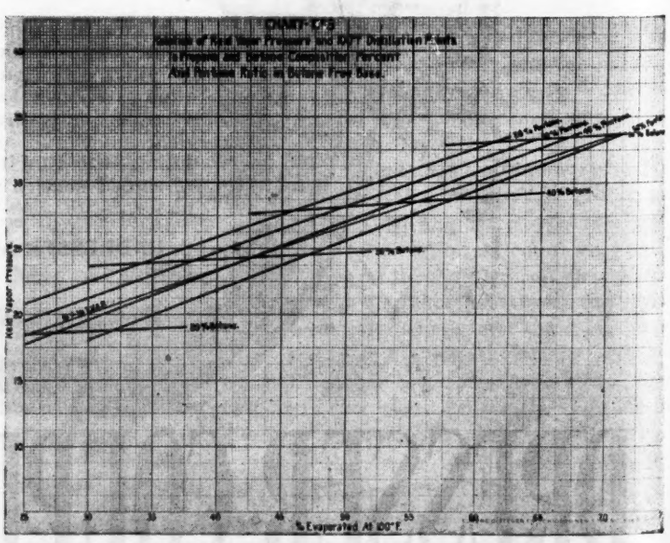
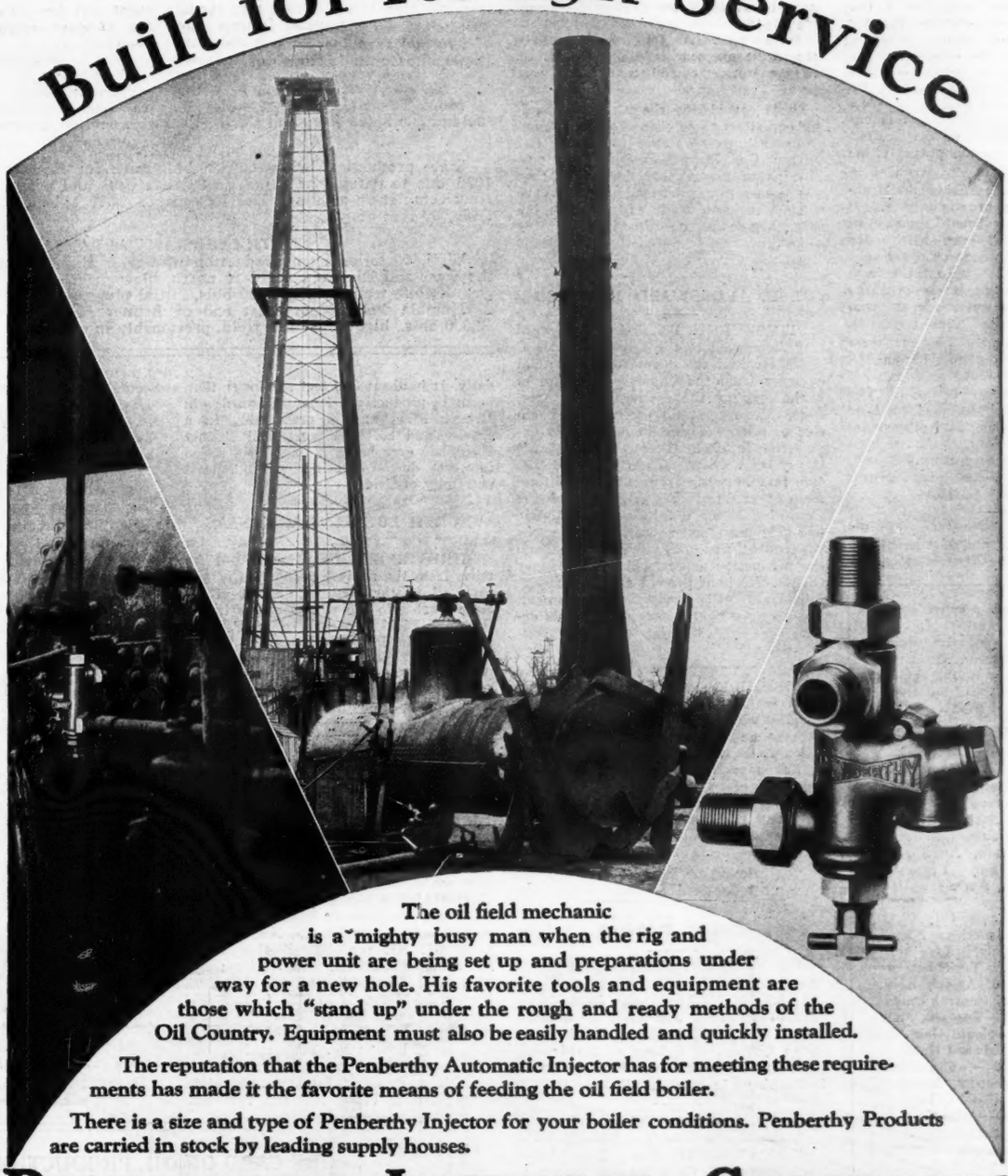


Chart No. 3.

PENBERTHY INJECTORS
are
Built for Rough Service



The oil field mechanic is a mighty busy man when the rig and power unit are being set up and preparations under way for a new hole. His favorite tools and equipment are those which "stand up" under the rough and ready methods of the Oil Country. Equipment must also be easily handled and quickly installed.

The reputation that the Penberthy Automatic Injector has for meeting these requirements has made it the favorite means of feeding the oil field boiler.

There is a size and type of Penberthy Injector for your boiler conditions. Penberthy Products are carried in stock by leading supply houses.

PENBERTHY INJECTOR COMPANY

ESTABLISHED IN 1886

DETROIT

CANADIAN PLANT WINDSOR, ONT.

Humble Stops Buying In North Texas and Panhandle Counties

HOUSTON, Tex., June 10.—Humble Oil & Refining Co. has notified producers of Wichita, Wilbarger and Archer Counties of North Texas and those of Carson, Hutchinson and Gray Counties of the Panhandle that, effective July 1, it will be forced to cease all purchases of crude from those areas.

This action of the Humble company has been brought about by a decrease in requirements of the company. Faced with a rapidly accumulating storage and lack of sufficient market for the disposal of all its purchases the company has found it necessary to restrict its purchases more so than in the past. Because of the overproduction situation, Humble Oil & Refining Co. for some time has been prorating the production, even its own, in those areas as well as in West Texas and certain other flush fields but this apparently has not entirely solved the problem as a large amount of crude had to go into storage.

The amount of crude affected by Humble's action totals approximately 11,000 bbls. Purchases from North Texas have been running around 5,000 bbls. daily and those from the Panhandle 6,000 bbls. Lines of the Humble Pipe Line Co. from these areas will continue to be operated for the benefit of those producers who have a market for their crude.

Previous to discontinuing purchases from North Texas and the Panhandle, Humble attempted to make arrangements with other purchasers, including The Texas Company and the Gulf Pipe Line Co., to take over some of its accounts but lines of those companies have been running to the utmost capacity.

MAGNETIC STORM

Tucson, Ariz., observatory of the United States Coast and Geodetic Survey reports a severe magnetic storm between 9 a.m. central time May 30 and 8 a.m. central time June 4. The telegram read:

"Storm began thirtieth fifteen. Severe."
"Storm ended fourth fifteen."

THE OIL MAN'S CALENDAR

June 12-13—Charleston, W. Va., annual convention, West Virginia Oil Marketers Association, Daniel Boone Hotel.

June 13-14—State College, Pa., Oil, Power and Gas Divisions. American Society of Mechanical Engineers.

June 16-25—Berlin, Germany, World Power Conference.

June 18-25—Atlantic City, N. J., Mechanical Division, American Railway Association, Auditorium.

June 23-26—San Francisco, Calif., convention, American Railway Association.

June 23-27—Atlantic City, N. J., annual meeting, American Society for Testing Materials.

August 4-9—New York, International Exposition of American Import Trade, Grand Central Palace.

September 2-4—Toronto, Ontario, North American Gas Tax Conference, King Edward Hotel.

September 8-12 — Cincinnati, Ohio, Eightieth meeting, American Chemical Society, Hotel Gibson.

September 17-19—Atlantic City, N. J., National Petroleum Association, Hotel Traymore.

September 29-October 4—Pittsburgh, Pa., petroleum section, National Safety Council.

October 4-11—Tulsa, Okla., International Petroleum Exposition and Congress.

October 6-11—Washington, D. C., Sixth International Road Congress.

October 14-16—Kansas City, Mo., convention, Big Four State Jobbers.

November 10-13—Chicago, Eleventh anual meeting, American Petroleum Institute, Stevens Hotel.

LARGE DEMAND FOR OIL AND NATURAL GAS MAPS

Individuals and companies desiring copies of The Oil and Gas Journal's large wall maps showing all natural gas trunk pipe lines in the United States and all oil trunk pipe lines are urged to send their orders as quickly as possible as the big demand for these maps indicates the available supply will be exhausted within a short time. The maps are printed on extra heavy bond paper, the natural gas lines being shown on one side of the sheet and the oil lines on the other side. As long as the supply lasts these maps will be disposed of at the cost price of 50 cents, including postage.

Firms considering the matter of sending copies of these maps to clients and customers are requested to advise The Oil and Gas Journal as quickly as possible as to the number desired so that arrangements may be made to take care of such requests. The expansion in the natural gas and oil pipe line industry makes these maps especially valuable at this time.

H. R. AUERSWALD HONORED

PITTSBURGH, Pa., June 9.—Howard Roy Auerswald of the Gypsy Oil Co. of Tulsa received the degree of commercial engineer from the Carnegie Institute of Technology at the commencement exercises. Mr. Auerswald received his bachelor of science degree in commercial engineering in 1914. He has been with the Gypsy Oil Co. since November, 1916. Before that he was cost engineer and foreman of the testing department of the Equitable Meter Co. in Pittsburgh. He has held positions in the gas and water department, the gasoline department, and the production department of the Gypsy Oil Co. He is at present assistant superintendent of the production department. The thesis which he prepared for his degree was on "The Stabilization of Natural Gasoline."

PRODUCES CARBON DIOXIDE

SEATTLE, Wash., June 9.—Advices have been received here from Fulton Petroleum Corp., drilling for carbon dioxide at Farnham Dome, Utah, that the drill penetrated 4 feet into gas sands and gas is blowing at the rate of over 1,000,000 feet a day at more than 700 pounds pressure. The well is owned by Carbon Dioxide & Chemical Co., 51 per cent of whose stock is owned by Fulton Petroleum Corp.

Late Fields

WEST TEXAS

FORT WORTH, Tex., June 10.—Cranfill Brothers and Gulf Production Co.'s No. 1 Tubb, Section 8, Block B-27, Crane County, is fishing at 3,045 feet. Gas decreased from 8,000,000 to 4,000,000 feet with no increase in oil.

NORTH TEXAS

FORT WORTH, Tex., June 10.—Mook-Texas Oil Co.'s No. 11 Sibley, 9 miles south of Ranger, located in Lot 19, William Van Norman Survey, 1 mile from nearest production in Eastland County, encountered the Duffey pay at 3,420 feet and started flowing at the rate of 100 bbls. per hour. It is now making between 400 and 500 bbls. per day.

SOUTHWEST TEXAS

SAN ANTONIO, Tex., June 10.—Humble Oil & Refining Co.'s No. 4 New, at the northeast end of Bruner Field, Caldwell County, at 2,289 feet, came in today flowing at rate of over 10,000 bbls. daily. It is about 300 feet shallower than normal production from Edwards in Bruner Field and is presumably in a crevice and is the biggest well Bruner Field has ever brought in. It has added interest due to being at northeast extremity of field.

High Spots in Field News

SOUTHWEST TEXAS
Possible new pool in Pettus Field. Four producers in Darst Creek.

GULF COAST
New deep sand extension at Refugio. Deep tests around Barbers Hill.

KANSAS
New locations decline, but several areas more active, including Rush, Russell and other counties.

OKLAHOMA
State production reduced to 666,700 bbls. following proration tests. Showing north of Oklahoma City.

WEST TEXAS
Western Crane County and Andrews County most interesting. Penn Pool extended a mile. Irion County becoming active.

ROCKY MOUNTAIN AREA
Shell Corp.'s well in Hobbs area, New Mexico, making 35,000,000 feet of gas and spraying several hundred barrels of oil will be drilled deeper. Important Colorado showings.

NORTH TEXAS AND PANHANDLE
Mook Texas Co.'s No. 11 Sibley, 9 miles south of Ranger, making between 400 and 500 bbls. Gray and Carson Counties decline in production.

CALIFORNIA
State production below 600,000-bbl. mark for first time since October, 1926, due to passing of Santa Fe Springs peak and progress of curtailment. New completion at Playa Del Rey makes 1,500 bbls. of 23 gravity oil and 1,500,000 feet of gas.

NORTH LOUISIANA-ARKANSAS
Well, 50 miles from production in Urania district, La Salle Parish, to the west and Richland Field to north, blew in estimated 10,000,000 feet of gas. Zwolle well making 3,300 bbls. initial plugs gap in eastern end of field. Humble well in northeast end of Bruner Field flows at rate of over 10,000 bbls., biggest well in field, presumably in crevice.

NORTH LOUISANA-ARKANSAS

SHREVEPORT, La., June 10.—Fifty miles from the nearest production of any sort, oil in the Ursania district of La Salle Parish to the west and gas in the Richland Field to the north, A. C. Glassell's No. 1 Pittsfield Planting Co. in Section 41-8-10, Concordia Parish, blew in from 1,392 feet with an estimated 10,000,000 feet of gas. Bottom of the hole is 4 feet in sand, thought to be of the Jackson formation, and there was more or less sand and considerable salt water with the gas. After blowing for a while the hole bridged but came back as strong as ever and bridged a second time.

OKLAHOMA

Sinclair Oil & Gas Co. completed five new wells in the Oklahoma City Pool, that yielded altogether 25,953 bbls. of oil within the first 24 hours, some being opened only a few hours. No. 1 School Land 67, NE cor. SE, Section 36-11-3w, made 9,860 bbls. in 13 hours; No. 12 School Land 54, SW cor. NE NE, Section 36-11-3w, 6,890 bbls. in four and one-half hours; No. 8 School Land 54, NW cor. NE, Section 36-11-3w, 3,378 bbls. in 12 hours; No. 1 Vencl, NW cor. SE, Section 31-11-2w, the east offset to the Mary Sudik, 3,770 bbls. in eight hours; No. 2 Vencl, NE cor. NW SE, Section 31-11-2w, 2,055 bbls. in 11 hours.

Ryan Consolidated Petroleum Corp.'s No. 1 Lawton, NE cor. NW, Section 3-11-2w, a wildcat east of the main pool, in Oklahoma County, drilled the cement plug and bailed down with a show of oil and water.

Actual Field Production

The field production from the Oklahoma City Pool is shown below. The table gives the daily production, number of barrels produced, number of wells producing, and total number of wells completed in the pool each day:

Day—	Bbls.	Wells producing	Total wells comp.
June 3	112,649	52	266
June 4	145,123	50	268
June 5	109,323	42	269
June 6	122,905	46	269
June 7	134,459	53	270
June 8	101,426	47	270
June 9	83,856	45	271

Twin State Oil Co.'s No. 1 Marks, SW cor. NE NW Section 32-10-6, Seminole County, flowed 2,595 bbls. on the gauge of June 10. The total depth of the well is 3,834 feet in the Cromwell sand. It apparently opens a new producing area in the Searight Pool.

Shell Petroleum Corp.'s No. 3 Caesar, SW cor. SE SE Section 20-6-6, in the Konawa Pool, in southern Seminole County, flowed 150 bbls. an hour on June 10. The oil sand was found at 2,925-38 feet. Operators expect to drill deeper before completing the well.

Hilton Phillips and others' No. 1 Burgess, NW cor. NE Section 29-6-6, in the Konawa Pool, gauged 6,205 bbls. on June 9 and 6,050 bbls. on June 10. The first hour's gauge was 400 bbls.

Payne Drilling Co. and others have

(Continued on Page 145)

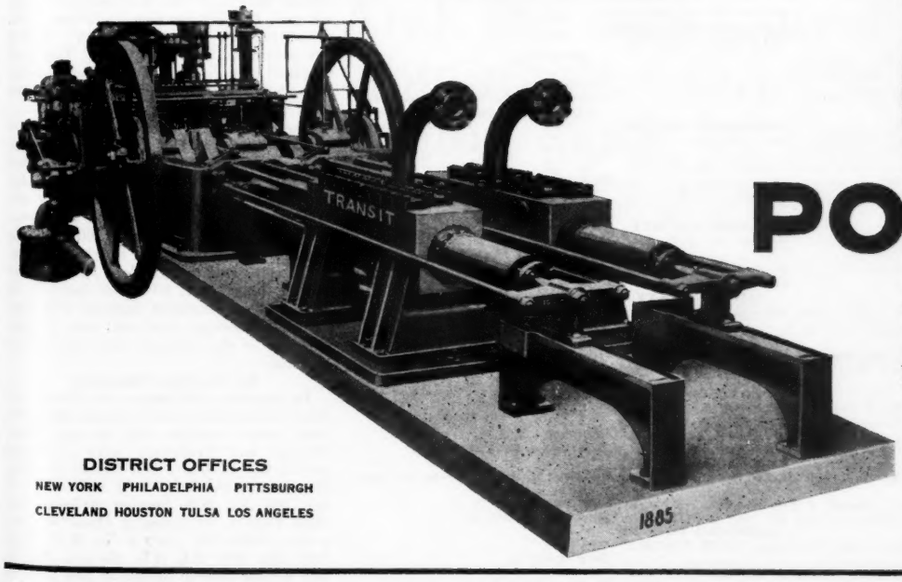
SCORE CARD ON OIL PRODUCTION

Below is shown allotted average daily production in the United States, April to December inclusive, suggested by the Committee on Economics of the Federal Oil Conservation Board, and the actual daily average production during the week ending June 7:

	Allotted (bbls.)	Actual (bbls.)	Over (bbls.)	Under (bbls.)
California	610,000	598,000	.....	12,000
Oklahoma	655,000	666,815	11,815	.....
Texas	750,000	852,045	102,045	.....
Other fields	480,000	467,550	.....	12,450
Total	2,495,000	2,584,410	113,860	24,450

Net overproduction, 89,410 bbls. per day.

TRANSIT
CRANK & FLYWHEEL
HOT OIL
PUMPS



DISTRICT OFFICES
NEW YORK PHILADELPHIA PITTSBURGH
CLEVELAND HOUSTON TULSA LOS ANGELES

NATIONAL TRANSIT PUMP & MACHINE CO.
OIL CITY - PENN.

Oklahoma Output Again Curtailed

Production Reduced to 666,700 Bbls. a Day Following Proration Tests. Oklahoma City Town-Lot Drilling Worrisome

By W. A. Spinney
Staff Correspondent, Oklahoma Fields

Operators in Oklahoma brought production down during the week ending June 7 to a total daily average of 666,700 bbls. It is a decline of about 13,800 bbls. from the previous week. With new producing areas springing up in different parts of the state continued curtailment will be necessary to keep production within requirements. The townlot drilling campaign at Oklahoma City, the new Wanette Pool in southern Pottawatomie County, the South Earlsboro Pool and the Konawa area, in Seminole County, give the State a large potential production.

The Oklahoma City Pool is expected to have a busy week. New wells are expected to be completed in large numbers, as quite a few wells were preparing to bail. The south end of the pool has several ready to bring on to production.

Some of the home owners in Oklahoma City are planning to hold mass meetings to take steps to obtain relief from drilling in certain sections of the city. Meanwhile sentiment among the city offiicals is for a more orderly drilling campaign. The city council is considering a proposed unitization plan to reduce the fire hazards and insure an equal division to all property owners. Some express the opinion that the present drilling development inside the city limits may prove to be disastrous to the city as a whole and to individual property owners. It has been proposed that the drilling sections of the city be divided into units. For example it has been proposed that a unit be composed of 40 acres of city lots and that only one well be drilled in the unit, and that all the owners within the 40 acres share in the income. Drilling would be reduced and returns would be greater than if a number of wells were drilled.

Unitization plan of development is favored as the best plan to eliminate promotional ventures, and would be beneficial to the community, as it would preserve the natural resources over a longer period and give the city a permanent development instead of a townlot boom.

Sinclair Oil & Gas Co. completed two wells on the School Land 54. No. 12 School Land 54, SW cor. SE NE Section 36-11-3w, blew in for a large well and is estimated at 15,000 bbls. a day, with 30,000,000 feet of gas. From a total depth of 6,637 feet No. 8 School Land 54, NW cor. NE Section 36-11-3w, in the south end of the pool, also blew in with an estimated flow of 10,000 bbls. of oil and 50,000,000 feet of gas. The total depth of the well was 6,646 feet.

Showing North of City

The possibilities of finding oil north of Oklahoma City were bright when the Magnolia Petroleum Co.'s No. 1 Johnson, NE cor. SW Section 35-13-3w, a wildcat near Britton, made several flows, while the crew was bailing the mud. While the test was flowing it showed gas and oil. The total depth of the test was 6,520 feet, where it is believed the oil and gas showing was found. When the hole was bailed down to 3,500 feet, a showing of water was also found, and again at the 4,500-foot level. The source of the water is unknown and the rotary tools may be rigged up again in an effort to mud off the gas to determine the source of the water. Some express the belief that the water is coming from a hole in the casing between the 4,200 and 4,800-foot levels, since no water was found when the bailer was run to the bottom of the hole. It is believed the hole is bottomed in Hunton lime, which has been known to carry water in some instances. The nearest production to the test is the Cromwell-Franklin Oil Co.'s No. 1 Edwards, in Section 10-12-3w, the discovery well in Oklahoma County, which is still making 15 bbls. a day and considerable water.

The town-lot drilling campaign is causing considerable trouble. Some of the property owners want the drilling zone extended. The committee decided not to extend the limits of the drilling zone at this time but to wait until the different areas have been definitely proved by offset wells.

A New Method

A new method was attempted in completing a well in the Oklahoma City Pool by Tom Slick Oil Co. and others in their No. 8 Hoopes, SW cor. SE NE Section 32-11-2w, in the south end of the field. A sand trap was installed at the head of the casing on the derrick floor. The well cleaned itself into this trap. It allowed the well to flow wide open flowing sand which has damaged the connections of many of the other wells and caused all the wild wells in the field. It is the first time such an experiment has been made and the results were satisfactory. The trap serves a double purpose, besides protecting connections it serves to prevent the oil and gas from blowing over the adjoining territory. The gas was estimated at 75,000,000 feet. The well made 572 bbls. in 15¾ hours. Indian Territory Illuminating Oil Co.'s No. 2 Jones Community, NE cor. SW SW Section 1-11-3w, in the north end of the field, blew in and made 210 bbls. the first hour, and 15,000,000 feet gas, and 8,803 bbls. in 12 hours.

The wildcat tests in the area surrounding the Oklahoma City Pool were drilling in the deep formations. Ryan Consolidated Oil Corp.'s No. 1 Lawton, NE cor. NW Section 3-11-2w, a wildcat 3 miles east of production in the main part of the pool, has been cemented at a total depth of 6,558 feet. Some express the opinion the hole was bottomed in the Hunton lime. The cement plug may be drilled in a few days.

J. F. Cuniff and Pandem Oil Co.'s No. 1 St. Joseph's Orphanage, NE cor. SE Section 17-12-4w, Oklahoma County, a wildcat in the western part of the county, was drilling in Checkerboard lime at a total depth of 6,260 feet.

George Warr, trustee's No. 1 Castle, SW cor. NW Section 20-11-3w, west of the Oklahoma City Pool, is reported to have topped the Checkerboard lime at 5,462 feet, and cored from 5,582-93 feet, and was rotating ahead, at 5,655 feet.

The south end of the Oklahoma City Pool was active during the week, Sinclair Oil & Gas Co.'s No. 4 School Land 54, NE cor. NW NE Section 36-11-3w, blew in making 9,050 bbls. in 12 hours. The total depth of the well is 6,666 feet, in Wilcox sand. It is the fifth completion on the Sinclair Oil & Gas Co.'s School Land leases in the NE, the SE and SW quarters of Section 36-11-3w. The company has numerous other operations on these quarters which are expected to be completed in a few weeks. About a dozen tests are below the 6,000-foot level.

Heenan & Coe's No. 2 Cunningham, NW cor. NE SW Section 1-11-3w, blew in during the early part of the week but it was immediately shut in when the connections began leaking, without putting any oil into the tanks. The total depth of the well is 6,420 feet, and is estimated at 12,000 bbls., and an estimated 75,000,000 feet of gas.

Lease Drilled Up

On the east side of the Oklahoma City Pool, Sinclair Oil & Gas Co. and Amerada Petroleum Corp.'s No. 10 Kinter, NW cor. SE SE Section 30-11-2w, has been completed at a total depth of 6,585 feet, in Silicious lime. The well yielded 115 bbls. the first 24 hours and a large amount of gas. It was the last drilling operation on the lease.

Tom Slick Oil Co. and Anderson-Prichard Petroleum Corp.'s No. 6 Hoopes, NE cor. SE NE Section 32-11-2w, was bailing in the middle of the week. The well caught fire several weeks ago destroying the derrick, when it was bailed in as a gas well. Later the gas was mudded off and the hole drilled deeper.

Cromwell-Franklin Oil Co.'s No. 15 Trosper Park, NE cor. SW NE Section 13-11-3w, in the north end of the field, was bailed in Friday, as the sixteenth producer on the city park. After the test was bailed down and allowed to flow for 15 minutes it was shut in before putting any oil in the tanks. The gas was estimated at 30,000,000 feet and the oil at 5,000 bbls. with considerable water. The well was shut in until treating tanks can be installed for an initial test of the well. The total depth of the well was 6,400 feet.

An old producer in the central part of the field, the Mid-Kansas Oil & Gas Co.'s No. 2 Fortson, C NW NE Section 24-11-3w, was being prepared for another shot of nitroglycerin after being plugged back to a total depth of 6,450 feet. It swabbed 81 bbls. of oil and about 10 bbls. of water. Operators are hopeful that a large percentage of the water has been plugged off.

Small-Tract Drilling

Jones Brothers' No. 1 Sullivan, in the E half SW NW SW Section 1-11-3w, on a small tract, was changing drill pipe to regain lost circulation. This well and the Indian Territory Illuminating Oil Co.'s No. 1 Phillips, about 100 feet east of the above location, both lost circulation when the Jones Brothers test reached a total depth of 4,664 feet, and the Indian Territory Illuminating Oil Co. test was 4,653 feet deep. It is the first incident of its kind in the Oklahoma City Field, but it probably will not be the last, since many of the tests in the north side of the field and the town-lot tests are being drilled close together.

Sixteen Locations in One Day

On Saturday 16 new locations were made in the north and west parts of the Oklahoma City Pool, and three new wells were completed. Indian Territory Illuminating Oil Co.'s No. 1 Trosper-Hughes, SE cor. NE SE Section 11-11-3w, made an average of 455 bbls. an hour, with a gas volume of 30,000,000 feet. The total depth of the well was 6,479 feet in sand. The well is producing under a 200-pound back pressure.

The producing area was extended to the northwest by the Wirt Franklin Petroleum Corp.'s No. 3 Theimer, SE cor. NE SE Section 2-11-3w, when it made 230 bbls. the first 30 minutes and 60,000,000 feet of gas. The well is producing from a total depth of 6,506 feet, and is the second producer in Section 2-11-3w. Cromwell-Franklin Oil Co.'s No. 17 Trosper Park, SE cor. SW NW Section 12-11-3w, was completed making 782 bbls. the hour's gauge. The well had a slight increase in the gauge of third which was 821 bbls.

In Southern Oklahoma

In southern Oklahoma the Madill district in Marshall County is considered the most active shallow field in that state. Several new producers were completed during the week and new locations added. Westhiemer-Daube's No. 4 Sullivan, NW cor. SW SE NW Section 30-5s-6, Marshall County, is pumping about 40 bbls. a day. Bilbo Oil Corp.'s No. 6 B. Null, NW cor. SW NE NW Section 24-5s-5, has drilled cement plugs at 584 feet, in the oil sand and was drilled deeper. The Goddard Co.'s No. 1 Marshall, NW cor. NE NE SW Section 30-5s-6, is cementing casing at 588 feet, on top of the oil sand. Reynolds and others' expect to drill a

(Continued on Page 103)

WILDCAT OPERATIONS IN OKLAHOMA

(Descriptions are East and North unless marked otherwise)

NORTHERN OKLAHOMA

ALFALFA COUNTY

Company, farm and location—	Remarks:
Smith Brothers' No. 1 Forbes, SE cor. NW NW Sec. 12-27-11w	Cleaning out 1,232 ft.
J. W. Bailey's No. 1 Acre, SW cor. NE Sec. 14-24-11w	Rigging up standard tools 4,660 ft.; cleaning out.

BECKHAM COUNTY

Ray Johnson and J. R. Cuniff's No. 1 Brower, C NW Sec. 29-10-22w	Rig.
Producers Exploration Co.'s No. 1 Sidell, SE cor. SW SW Sec. 17-9-22w	Shut down 2,402 ft.
Carson et al's No. 1 Danby, SW cor. SE NE Sec. 20-8-22w	Shut down 1,575 ft.

BLAINE COUNTY

Lowen et al's No. 1 Unknown, NW cor. SW NW Sec. 17-16-11w	Spudded and shut down.
Washoma Oil Co. et al's No. 1 Phillips, C NW SW Sec. 12-19-10w	Drlg. 3,130 ft.

CADDO COUNTY

W. J. Hartley's No. 1 Galbreath, SE cor. NW SE Sec. 29-5-12w	Shut down 3,394 ft.

CLEVELAND COUNTY

Harris et al's No. 1 Highbee, SE NW Sec. 20-6-1	Shut down 5,950 ft.
Daniels & LeWright's No. 1 Vandever, C SW Sec. 15-7-1w	Shut down 3,130 ft.

COAL COUNTY

A. M. Van Orden's No. 1 Jamison, SE NW Sec. 31-1-9	Drlg. 365 ft.
Blackwell O. & G. Co.'s No. 1 L. Jackson, NW cor. Sec. 26-3-9	Location.
W. E. McGraw's No. 1 King, C SW NE Sec. 11-1-8e	Shut down 2,975 ft.

COMANCHE COUNTY

V. Wright's No. 1 Indian Land, SE SW Sec. 29-2-9w	Swabbed 4 bbls. 1,920-34 ft.; shut down.
G. W. Stogner's No. 1 Doebel, C SW SW Sec. 3-3-9w	Shut down 1,450 ft.
Green et al's No. 1 Wilson, C NE SW Sec. 14-1-12w	Shut down 4,055 ft.

GARFIELD COUNTY

Shell Petroleum Corp.'s No. 1 Loomis, C NW NW Sec. 32-23-4w	Drlg. 5,684 ft.
E. L. Love et al's No. 1 White, SE cor. NW Sec. 9-24-6w	Fishing 5,580 ft.

GRADY COUNTY

J. V. Bailey's No. 1 Hubbard, C NE NW Sec. 1-10-6w	Shut down 100 ft.
J. M. Henry et al's No. 1 Abraham, SE cor. NW Sec. 4-5-8w	Rig.

GRANT COUNTY

Cowden et al's No. 2 Vollmer, CEL NE SW Sec. 22-25-4w	Shut down 5,640 ft.

(Continued on Page 115)

Split-ups

Stock split-ups and stock dividends make good news in the business world

Charging stock split-ups in Dubbs cracking units make good gasoline convertible into good dividends — that's good news for the refiner and his stockholders

More good gasoline from cheaper charging stocks equals more profits

And the most good gasoline is obtainable from the cheapest charging stock by the operation of the Dubbs process

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Several Areas in Kansas More Active

While New Locations for State as Whole Show Decline, More Work Is Noted in Russell, Rush and Other Counties

By W. A. Spinney
Staff Correspondent, Kansas Fields

Oil production in Kansas declined very slightly last week. Fewer new locations were announced than in the previous week. The list of new locations dropped to 22 for the entire state. The east side of the state leads with 14 and the western half has eight.

Russell County has again developed into an active area. Numerous wildcat tests have found oil recently and these new wells are expected to be offset during the summer.

Activity in Rush County is gaining momentum. A wildcat test was announced and the cellar dug on a block of 8,000 acres. O. J. Flynn and others made the location for No. 1 Andrews, C SW Section 9-18-18w, southeast of the county seat. Drilling is expected to start in the next few weeks. The Prairie Oil & Gas Co. and the Gypsy Oil Co. have blocks in Township 16-18w, on which tests may be commenced later in the year.

On a later report the Tatlock Shell Petroleum Corp. and others' No. 1, C NW NW Section 17-25-4w, made 28 bailers of oil and 4 bailers of water in 12 hours, from the chat at 3,606-10 feet.

McBride's, Inc., No. 1, NE cor. SW Section 30-19-1w, McPherson County, has been drilled deeper in the chat and flowed 418 bbls. of which 25 per cent was water. The chat was found from 2,947 feet, and the pay at 2,978-3,011 feet. The gas was estimated at 1,500,000 feet.

Prairie Oil & Gas Co. and Gypsy Oil Co. have announced a location for a joint test in Rush County. It is No. 1 Leiker, NW cor. SE SE Section 5-18-16w, about 2 miles north of the recently discovered gas well, by the Milmac Oil Co. in Section 11-18-16w.

A new test on the southeast edge of the city limits of Wichita was started by the Six Forty Oil Co. It is located midway between the production on the east edge of Wichita and the Robbins Pool. The location is on the Braley Airport in SE cor. NW Section 6-28-2, Sedgwick County.

Drilling for Gas

Southwestern Kansas now has about 50 new locations. The Argus Production Co. is the leader in the area. W. M. McKnabb has announced a new location near Rolla, Morton County. The test will be drilled in the C SW Section 5-35-39w. The new locations are in Stevens and Morton Counties, in the Hugoton Gas Field. Martin & Bovie were moving in tools for No. 1 Kremer, C NW Section 2-35-39w, Stevens County, on a 6,000-acre block. These operators expect to drill three other tests on the block. South of the Martin & Bovie test, Pioneer Oil Co. has leased a block in Sections 34 and 35-35-39w, Stevens County. Four gas wells are to be drilled in this acreage.

In Butler County, southwest of El Dorado, Empire Oil & Refining Co. has made location for No. 100 Koogler, NW cor. SW SE Section 20-26-5. During the past six months the Empire Oil & Refining Co. has been steadily developing this property. The Magnolia Petroleum Co. is starting No. 63 Koogler, NW cor. SW Section 21-26-5.

Northwest of Augusta, Johnson and others' No. 1 Heath, NE cor. SE Section 12-27-3, had water in the Wilcox sand at 2,964-68 feet, and was drilling deeper at 3,005 feet. It looks like a failure and may be abandoned. Another attempt to extend production in the Haverhill district beyond the Empire Oil & Refining Co.'s leases is being made by the Midland Refining Co. and others' No. 1 Nixon, NW cor. Section 23-27-5, Butler County. The location is east of the present production in the area.

As the result of a new well in the northeast part of Marion County some express the opinion that a drilling campaign may follow. The well is Youker and others' No. 1 Riffel, SE cor. Section 10-17-4, Marion County, which is estimated to be good for 225 bbls. a day from the chat. The chat in this area is known as the Lost Springs chat. Several wells were drilled to this formation but it was later found to be spotted and after operators had spent considerable time and money moved out and the area has been idle for some time.

Fail to Extend Production

The attempt of the Gypsy Oil Co. to extend production in the Halstead in Harvey County was a failure. The test was No. 1 Hege, SE cor. NW SE Section 13-22-2w. The Silicious lime was found at 3,566-69 feet, with a hole full of water. The company's other test in the same county, No. 1 Shine, SE cor. SW Section 26-22-3w, in the western part of Harvey County, was drilling in Viola lime at 3,665 feet.

North of the Shell Petroleum Corp.'s Palmer well in Harvey County, which is about 8 miles north of the production in the Ritz Pool, a new location has been made by Jolly-Ogg Petroleum Corp. The location is for No. 1 Pierce, SW cor. NE Section 25-22-2w.

A wildcat test in Reno County has a showing of oil. The test was drilled by J. Tatlock, Shell Petroleum Corp. and others, and is No. 1 Tonn, in Section 17-25-4w. The showing was found at 3,506-09 feet, in sandy lime. Preparations were being made to test the showing. The oil was from a formation about 75 feet, in the Mississippi lime which was topped at 3,529 feet. The test first attracted attention a few weeks ago when a showing of gas was found at 3,550 feet. Another test a short distance to the southwest, the Independent Oil & Gas Co.'s No. 1 Doles, in Section 31-25-4w, found a hole full of water in the Silicious lime at 4,115-25 feet.

An addition to the gas area in McPherson County was made by the W. C. McBride, Inc.'s No. 1 Whitwright, NW cor. SW, Section 30-19-1w, a test about 2½ miles southeast of the Decker gas pool, and 2 miles northeast of the Ritz Pool. It is predicted by some that the gas may be a forerunner of oil production from the chat horizon in that part of the county. The well is estimated to be making 3,500,000 feet of gas from the chat at 2,947-58 feet. The test will be drilled deeper in search of oil which is generally found from 50 to 60 feet in the chat.

Voshell Pool

The Voshell Pool was extended a location to the southeast during the week by the Shell Petroleum Corp.'s No. 1 Neufeldt, NW cor., Section 15-21-3w, McPherson County. The well swabbed 530 bbls. in 24 hours. from the Wilcox sand at 3,392-97 feet.

The Derby Oil Co. plans to reduce its runs from the Voshell Pool in McPherson County. It has been transporting about 6,500 bbls. a day. This includes about 3,800 bbls. a day of its own crude from the E half SE, Section 9-21-3w, and the balance was shipments from the E. W. Marland. Inc. and Skelly Oil Co.

McCulloch, Graham Brothers and others' No. 1 Williams, C NE, Section 35-20-8w, Rice County, had the top of the chat at 3,320 feet and was drilling at 3,350 feet in chat with nothing showing.

Aladdin Petroleum Corp. is rigging up No. 1 Bryant, NW cor. NE, Section 28-20-10w. Operators were forced to start this test on account of short term lease. It is believed that other tests will be commenced during the next few months by operators holding leases that expire during the year.

In the Peasel Pool, northwest of Wellington in Sumner County, the discovery well drilled by Slick, Pryor & Lockhart and others, No. 1 Peasel, NW cor., Section 33-31-1w, was making 85 bbls. a day from the chat. Sinclair Oil & Gas Co.'s No. 1 Kamas, SW cor., Section 28-31-1w, is yielding about 130 bbls. a day. Shawver and others' No. 1 Neal, SE cor., Section 29-31-1w, is rigging up. Carter Oil Co.'s No. 1 Franklin, NE cor., Section 32-31-1w, is spudding. Magnolia Petroleum Co. is due to start its test located in the NW cor. SW, Section 9-33-2, Sumner County, southwest of the Oxford Pool.

The Gypsy Oil Co. is starting another test east of the Caldwell area in Sumner County. It is No. 1 Sturm, in Section 23-34-2w, about 8 miles east of Caldwell production.

A new test for Barber County was announced during the week by the McPherson Oil & Gas Co. The location is in the CNL SW, Section 10-33-13w, Barber County, near the Barber County gas field.

Barber County

McPherson Oil & Gas Development Co. made location for No. 1 Rule, C NW SW, Section 10-33-13w.

Chase County

Chase County Pipe Line Co. made location for No. 1 Koegecoehn, C SE SE, Section 29-19-6. No. 1 Meirhoff, C SW NW, Section 31-19-6, has been abandoned at 1,088 feet.

Chautauqua County

Griffin & Bell's No. 2 Curran, CWL NW NE, Section 12-32-10, is spudding. Morrow and others' No. 1 Glenn, CEL SE SW, Section 30-32-11, has been completed for 1,500,000 feet of gas in sand 1,488-1,507 feet.

Coffey County

Kinsley and others staked location for No. 1 Powers, SW cor., Section 17-22-14.

Cowley County

Minnehoma Oil Co.'s No. 1 Denton, SE cor., Section 4-31-8, is rigging up to deepen from 2,007 feet.

Elk County

Croft & Frazier's No. 1 Key, SE cor. NE, Section 26-31-10, is a rig. Exchange Drilling Co.'s No. 1 Rettig, NW cor. SW, Section 28-31-10, is spudding.

Greenwood County

Aladdin Petroleum Co. made location for No. 1 Harris, SE cor. NE SW, Section 19-22-10. O'Neil and others' No. 2 Hess, SW cor. NE NW, Section 34-22-11, is spudding. Simmons & Leonard's No. 1 Enoch, NE cor. NW NW, Section 31-22-13, is a rig. Independent Oil & Gas Co.'s No. 1 Wilcox, SE cor. NE SE, Section 35-24-10, is spudding. McGinnis and others' rig is up for No. 5 Mack "B," SW cor. NE, Section 36-24-10. Derby Oil Co. has built the rig for No. 4 Beavers, SW cor. SE, Section 25-24-12. Aladdin Petroleum Co. and Phillips Petroleum Co. made location for No. 3 Jones, SE cor. NW, Section 36-24-10. Sheely and others' No. 1 Tiechgraber, SW cor. NW NE, Section 11-25-8, is a rig. Theta Oil Co.'s No. 2 Pixlee, SW cor. NW SW, Section 9-22-10, has been completed for 35 bbls. in sand 2,317-29 feet. Skelly Oil Co. and Tidal Oil Co.'s No. 21 Wick, SE cor. SW SW, Section 27-22-11, made 115 bbls. in sand 1,883-1,944 feet. McMahon and others' No. 1 Kelly, SW cor. NW, Section 23-27-11, is dry and abandoned at 1,950 feet.

Harvey County

Cosby, Deitrick and Phillips Petroleum Co. made location for No. 1 Cone, C NW NE, Section 31-22-3w. Jolly Ogg and others made location for No. 1 Pierce, SW cor. NE, Section 25-22-2w.

McPherson County

W. C. McBride, Inc., made location for No. 1 Becker, SW cor., Section 36-20-2w.

(Continued on Page 103)

WILDCAT OPERATIONS IN KANSAS

(Descriptions are East unless marked otherwise)

BARBER COUNTY

Company, farm and location—	Remarks:
Barbara Oil Co.'s No. 1 Hamblin, SW NW Sec. 24-33-13w	Drlg. 2,300 ft.
Skelly Oil Co.'s No. 1 Temple Ranch, SW NE Sec. 13-34-15w	Shut down 5,530 ft.
Phillips Pet. Co.'s No. 1 Powell, SE cor. SE Sec. 11-32-10w	Shut down 4,023 ft.

BARTON COUNTY

Slick and Prairie's No. 1 Rude, SW cor., Sec. 11-16-13w	Location.

BUTLER COUNTY

Aladdin Pet. Co.'s No. 1 Metzger, NW SE Sec. 23-28-3	Drlg. 290 ft.
Gypsy Oil Co.'s No. 1 Osborne, NW SE Sec. 22-26-3	Rig.
T. C. Johnson's No. 1 Heath, NE SE Sec. 12-27-3	Drlg. 2,405 ft.
Elam et al's No. 1 Hopkins, SE SW SE Sec. 26-23-4	Chat 2,475-95 ft.
Joe Liggett's No. 1 Guanther, C SE NE NW Sec. 29-26-7	Shut down 50 ft.

CHASE COUNTY

Chase County Gas Co.'s No. 1 Weirhoff, SW NW Sec. 31-19-6	Drlg. 1,080 ft.
Urschell et al's No. 1 Lippa, C SW SW Sec. 27-18-6	Drlg. 2,310 ft.
Steinbuckel et al's No. 1 Stephenson, NE SW Sec. 4-20-6	Drlg. 1,740 ft.

CHAUTAUQUA COUNTY

Valentine Oil Co.'s No. 1 Patterson, NW SE SW Sec. 2-33-9	Shut down 1,690 ft.

CLAY COUNTY

Crisler et al's No. 1 Tivier, SW cor. Sec. 19-8-3	Shut down 50 ft.

COFFEY COUNTY

Kimsay's No. 1 Baker, SE cor. Sec. 24-22-13	Drlg. 350 ft.
Ritchey et al's No. 1 Rossenmacher, C SE Sec. 36-22-13	Spudding.
Roberts et al's No. 1 Hay, SW SE NW Sec. 32-22-15	Rig.

COWLEY COUNTY

Tom Fine's No. 1 Boyd, NW NE Sec. 32-32-4	Spudding.
Roth & Faurot's No. 1 Adams, C SW NE NE Sec. 19-32-8	Show oil 2,120-44 ft.; T. D. 2,147 ft.; fishing.

DICKINSON COUNTY

Severs et al's No. 1 Lavengood, NE SW Sec. 13-13-2	Drlg. 225 ft.
Emery-Curtis & Bryan's No. 1 Hevner, NW SE Sec. 31-13-3	Drlg. 2,560 ft.
Cross' No. 1 Sanden, NE cor. Sec. 12-15-2	Rig.
Hiatt & Durham's No. 1 Wendt, NW cor. Sec. 17-16-2	Shut down 50 ft.
Kruger et al's No. 1 Diche, C NW NE NE Sec. 17-13-4	Shut down 2,935-43 ft.; water.
E. N. Morgan's No. 1 Whithair, NW SE Sec. 9-12-1	Shut down 1,768 ft.

DOUGLAS COUNTY

Steinbuckel's No. 1 Unknown, SW NE NW Sec. 34-14-21	Shut down 1,100 ft.
Jenkins & Scott's No. 1 Haden, SE NW Sec. 16-12-17	Shut down 1,800 ft.

(Continued on Page 115)

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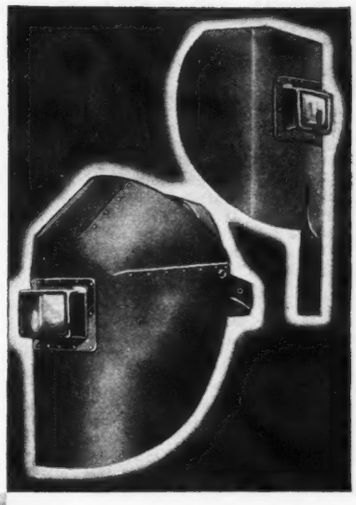

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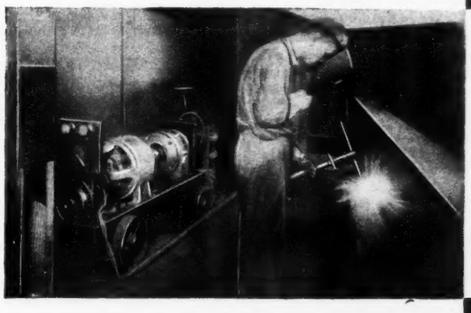

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Contradictions in the Holly District

May Be Spotted Field of Small Area, With Only Extension Southward. Zwolle Well Fills Gaps in Eastern End of Field

By D. H. Bancroft
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., June 9.—The guessing contest that has characterized three of the four new pools opened in the vicinity of Shreveport during the past year because of the contradictory results obtained in offset wells, appeared with emphasis in the Holly district of DeSoto Parish this week. Producers, gas wells, salt water tests, all within a narrow radius, give Holly a strange resemblance to the Dixie district of Caddo Parish so far as results are concerned. Standard Oil Co. completed No. 1 Odes Fuller in the NE cor. SE, Section 6-13-13, approximately a mile southwest of the discovery well, as a 3,000,000-foot gasser, total depth 2,836 feet, and No. 1 Tracy, in the NW cor. SW, Section 5-13-13, less than a quarter of a mile northeast of the Fuller, flowing 100 bbls. of oil with 5,000,000 feet of gas from 2,845 feet. Top of the sand was at 2,816 feet in the Fuller and 2,840 feet in the Tracy.

The Tracy well is a south offset to No. 1-A Parker which topped the sand at 2,836 feet, tested dry at 2,841 feet and is arranging to plug back with 2,400 feet of water in the hole, total depth 2,852 feet. No. 1 C. C. Fuller, not quite half a mile northeast of the Parker and Tracy wells, topped the sand at 2,834 feet, bailed to 600 feet of the bottom at 2,452 feet, without getting a show and is coring. Standard's No. 1 Brooks, three-quarters of a mile south of the Parker and Tracy wells, tested salt water at 2,813 feet, top of the sand at 2,793 feet. Three miles southwest of production Odell & Lawton's workover, No. 1 Harris, in the NW SE, Section 11-13-14, made drill stem test from 2,750-3,150 feet, got 3,000,000 feet of gas, and are arranging to cement the bottom and set a string of pipe. Arkansas Fuel Oil Co.'s No. 2 Scott, in the SE NE, Section 32-14-13, a mile northeast of production, with broken sand from 2,752-81 feet, swabbed to top of liner, obtaining a show of salt water with considerable oil and gas. As a result all this, with more of the same resulting from previous completions and drill stem tests, has prompted much talk of a "spotted" field of probably small area extension of which will be south as completions north and east of production were failures, the Arkansas Fuel Oil Co.'s current test being the most promising obtained so far to the north and east of the discovery well.

Six miles southeast of Mansfield, Burnham and others, of El Dorado, Ark., have location for No. 1 Hood in the SE NE. Section 3-11-14, 3 miles or so west of Arkansas-Louisiana Pipe Line Co.'s No. 1 Johnson, a recently completed gasser in Section 7-11-13, on the east edge of the old Spider district.

Blue Lake District

R. L. Gay's No. 4 Sabine Lumber Co., in Section 13-7-14, Blue Lake district, a quarter of a mile southeast of production, tested dry at 2,565 feet and was abandoned. Pelican Natural Gas Co. abandoned No. 1 Sabine Lumber Co. in Section 1-7-12, 2 miles southeast of the Zwolle discovery well, when it tested salt water at 2,833 feet. Previous tests at 2,575 feet and 2,533 feet were failures and a third at 2,580 feet resulted in only a small show of oil after which it was plugged back to the level of the first test without improving on a second test at that depth.

Burnham and others' No. 2 Bolin, Section 31-8-12, was dry at 2,555 feet and abandoned. The five locations abandoned were, Dooley & Howard's No. 1 Williams, SW NW, Section 31-8-12; C. E. Simmons' No. 1 Leach, SW NW, Section 31-8-12; and W. S. Smith and others' No. 1 Colquit, No. 1 Henderson and No. 1 Williams, all in the SW NE and SE SE, Section 31-8-12. L. Nagle abandoned No. 1 Corley, SW NW, Section 31-8-12, as a dry hole at 2,461 feet. It made one head of oil lasting for several minutes and then quit.

Zwolle District

Of 10 completions in the Zwolle district five were abandoned locations and derricks and two were producers. One of these was the Olsan Brothers and others' No. 1 Ferguson-Boone in Section 33-8-12. Not exactly an extension, this producer, which made 3,300 bbls. initial from 2,460 feet, serves to plug much of the gap between the discovery well and other producers immediately adjacent and townsite producers in the eastern end of the Zwolle district. On that account as well as because it is by far the best well brought in since the discovery, it has been made much of and has considerably revived interest in Zwolle and its possibilities, an interest which had distinctly suffered more or less of a slump under a succession of disappointments.

The first of a group of Zwolle wells scheduled to go 4,000 feet or deeper is a failure, W. G. Gray abandoning No. 1 Knowles in Section 6-7-12, just beyond the southern edge of town, after testing salt water with a show of gas at 4,003-10 feet and plugging back 500 feet. Loring Oil Co.'s No. 5 Bowman-Hicks, Section 34-8-12, is drilling at 3,800 feet. Ohio Oil Co. will shoot formation around 2,550 feet in No. 3 Bowman-Hicks, Section 32-8-12, which at a total depth of 2,980 feet, has at least a total absence of any water show in its favor. McFann & Pace's No. 1 Reeves, Section 31-8-12, was dry at 2,581 feet and is waiting orders while Perritt and others' No. 1 Crow in Section 30-8-12, is waiting on standard rig with 500 feet of oil in the hole from total depth of 2,387 feet. A. H. Tarver's No. 2 Sabine State Bank in Section 26-8-12, a semiwildcat, a mile north of the discovery well and half a mile east of No. 1 pumped 45 bbls. initial from 2,327 feet.

Production Averages

Production averages showed continued improvement from flood conditions prevailing in Caddo Parish and Smackover Fields for the past three weeks. Caddo runs totaling 10,175 bbls. were an increase of 1,260 over those last week and runs of Smackover heavy crude increased 3,300 bbls. In spite of the fact that approximately 200 wells were affected by the high water in Red River pools, runs from that district show practically no change whatever. Due to Olsan Brothers' big well in Zwolle, average shipments from that field gained 2,520 bbls. over last week's average. Runs from the Holly district of De Soto Parish fell off 180 bbls.

Total runs from the division, averaging 97,150 bbls., were an increase of 6,980 bbls. Louisiana runs of 40,750 bbls. were up 3,665 bbls. and Arkansas' 56,400 bbls. was an increase of 3,315 bbls. Daily average runs from the several pools were:

NORTH LOUISIANA

Caddo, light	7,885
Caddo, heavy	2,290
Homer	3,610
Haynesville	4,655
DeSoto-Red River	3,025
Elm Grove	370
Bellevue	630
Cotton Valley	2,025
Urania	5,125
Pleasant Hill	600
Sarepta-Carterville	3,570
Zwolle	5,435
Holly	1,580
Total	40,750
Last week	37,085
Increase	3,665

ARKANSAS

El Dorado	4,025
Smackover, light	3,180
Smackover, heavy	40,000
Stephens	950
Nevada	915
Lisbon	1,000
Champagnolle	3,800
Bradley	80
Mount Holly	100
Urbana	350
Total	56,400
Last week	53,085
Increase	3,315
Both states	97,150
Last week	90,170
Increase	6,980

Monroe Field

The Monroe gas field apparently is not to share the experience of the Smackover and Caddo Pools during the recent flood. Water is scattered over localities in the field and eight or a dozen wells are shut down, but otherwise the field has escaped as the crest of high water in the Ouachita River has passed.

Details of the merger of Moody-Seagraves, Louisiana Gas & Fuel and other interests controlling the bulk of production in both the Monroe and Richland gas fields have not been revealed here, nor does it appear that there is to be any change in operation of the merged properties except that future tests will be carried in the name of the new combine. At least, that is about the sum of information obtained to date. Carbons Consolidated, Inc., completed No. 3 Kate Cole, Section 26-20-4, Ouachita Parish, gauging 3,263,000 feet of gas at 550 pounds, total depth 2,195 feet, and Lyons Gas Co.'s No. 2 Albright, Section 13-18-3, made 370,000 feet at 940 pounds from 2,402 feet in the so-called second sand. Palmer Corp.'s No. 1-E D. R. Sartor, Section 16-16-6, Richland Parish, gauged 39,476,000 feet of gas at 550 pounds, total depth 2,450 feet, and Southern Carbon Co.'s No. 1 L. S. Mul-

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LOUISIANA-ARKANSAS PROVEN AREAS

NORTH LOUISIANA
BOSSIER PARISH—CARTERVILLE

Company, farm and location—	Remarks—
Ark. Fuel Oil Co.'s No. 1 Bain, 330 ft. N, 330 ft. E, SW cor. NW SW, Sec. 31-23-11	Derrick.
Ark. Fuel Oil Co.'s No. 2-B Barnett, 330 ft. N, 330 ft. W, SE cor. NW NE, Sec. 26-23-12	W.O.S.R. 3,167 ft.
Ark. Fuel Oil Co.'s No. 3-B Barnett, 330 ft. N, 330 ft. E, SW cor. NW NE, Sec. 36-23-12	Drlg. hard lime 2,590 ft.
Ark. Fuel Oil Co.'s (formerly Muslow Oil Co.'s) No. 1 Floyd, 990 ft. S, 330 ft. W, C, Sec. 25-23-12	W.O.S.R. 3,176 ft.
Ark. Fuel Oil Co.'s No. 4-A Kilgore, 100 ft. N, 1,330 ft. E, SW cor. SE SW, Sec. 30-23-11	190 ft. oil; W.O.S.R; T.D. 3,133 ft.
Ark. Fuel Oil Co.'s No. 7-B Kilgore, 330 ft. S, 990 ft. E, NW cor. NE NW, Sec. 31-23-11	W.O.S.R. 3,164 ft.
Ark. Fuel Oil Co.'s No. 9-B Kilgore, 330 ft. S, 1,650 ft. E, NW cor. NE NW, Sec. 31-23-11	Location.
Ark. Fuel Oil Co.'s No. 2 Mark Meyer, 330 ft. W, 250 ft. S, NE cor. SE, Sec. 36-23-12	Rig up.
Ark. Fuel Oil Co.'s No. 1 Ramsey, 557 ft. S, 330 ft. E, C, Sec. 31-23-11	W.O.S.R. 3,171 ft.
Askew & Goodman's No. 1 Roberson, 330 ft. S, 282 ft. W, NE cor. SW SW, Sec. 25-23-11	Show oil, gas and S.W; T.D. 3,167 ft; T.A. 3,280 ft.
Del.-La. Dev. Co.'s No. 6 Bollinger, 330 ft. S, 220 ft. W, NW cor. Lot 17, in Lot 16, Sec. 31-23-11	Full oil; W.O.S.R; 15 ft. broken sand; T.D. 3,217 ft.
Eylers O. & G. Co.'s No. 1 Wise, 330 ft. S, 330 ft. W, NE cor., Sec. 35-23-11	350 ft. oil; W.O.S.R; T.D. 3,203 ft.
Greenwood Prod. Co.'s No. 1 Bollinger, 1,980 ft. N, 1,150 ft. E, SW cor. SE, Sec. 36-23-12	W.O.S.R; 2,500 ft. oil; T.D. 3,200 ft.
Greenwood Prod. Co.'s No. 2 Bollinger, 990 ft. W, 330 ft. S, NE cor. NE SE, Sec. 36-23-12	Rig up.

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WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

NORTH LOUISIANA
AVOYELLES PARISH

Company, farm and location—	Remarks—
t. E. Tippett's No. 1 Chateline, NE NE, Sec. 34-1n-3e..	Drlg. sandy shale 2,700 ft.
BIENVILLE PARISH	
Ark.-La. P. L. Co.'s No. 1 Ashley, 600 ft. N, 660 ft. W, SE cor., Sec. 15-16-10	Began drlg. May 31; cmtd. 10-in. 190 ft.
W. A. Nichols et al's No. 1 McDermott, 660 ft. S, 660 ft. W, NE cor. NE NE, Sec. 28-18-6	Tested dry 2,050 ft; S.D. 2,191 ft.
BOSSIER PARISH	
Andrews & Davlin's No. 1 Nattin, 100 ft. N, 250 ft. W, C, Sec. 15-22-14	Drlg. 770 ft.
La. G. & F. Co.'s No. 1 Crystal Oil Ref. Co., 66 ft. N, 1,320 ft. W, SE cor. SW SE, Sec. 7-21-11	Drlg. shale, streaks of sand 3,398 ft.
Walker et al's No. 1 Antrim, NW cor. SE, Sec. 28-22-13	Arranging to resume operations: T.D. 3,184 ft.
CADDO PARISH	
Magnolia Pet. Co.'s No. 1 Swann, 330 ft. N, 330 ft. W, SE cor. NE SW, Sec. 16-21-14	Cmtd. 6⅝-in. 1,965 ft; T.D. 1,973 ft.
L. B. Mawk's No. 1 Swann, 440 ft. N, 200 ft. E, SW cor., Sec. 23-21-14	S.D. for fuel; T.D. 700 ft.
R. W. Norton's No. 1 Hill, 630 ft. N, 1,260 ft. W, SE cor. NE, Sec. 33-23-16	Top anhydrite 4,876 ft; drlg. anhydrite and black shale 5,060 ft.
CALDWELL PARISH	
Hudson et al's No. 1 Gondy, SE NW, Sec. 4-11-3e	Began drlg. June 3.
CATAHOULA PARISH	
Nick Barbare et al's No. 1 L. McGraw, 150 ft. N, 150 ft. W, SE cor. SW NW, Sec. 30-10-9	Location.
National O. & G. Co.'s No. 1 Kirkland, 585 ft. E, 495 ft. N, SW cor., Sec. 35-9-1n	Drlg. shale 1,130 ft.

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Possible New Pool in the Pettus Field

Four Producers Completed in Darst Creek Area. Several New Locations Are Scattered Over the Laredo Territory

By B. D. Stevenson
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., June 9.—Grayburg Oil Co.'s No. 1 Kimball in the Pettus area in Bee County which last week was reported as having tested 600 feet of oil on a drill stem test and extended the Pettus Field 7 miles to the west, has since had bad luck and is tied up with a fishing job. The derrick was pulled in while trying to clear the hole and it may be some days before any more information is had. The oil is 36 gravity and the sand at 3,553-63 feet. The drill stem twisted off and left about 3,000 feet in the hole. Saturday they "expected" to get the hole cleared in a day or two.

Nichols Oil Corp.'s No. 3 Hicks south of the Pettus Field has been connected with the gas line. The test was spraying considerable oil but was generally accepted as a wet gasser. A separator is being put in and the oil will be separated to see just how much there is of it. Possibly also by relieving the pressure and letting it make gas for a time it may develop more oil. There is still every possibility that the well indicates the opening of a new pool, anyway of gas and possibly of oil.

The Pettus area is still the hottest in the country. Cosden Oil Co.'s No. 1 McKinney which extended the field west is flowing averaging 320 bbls. It was first completed at 3,668 feet total depth but was carried to 3,677 feet but the last 3 feet was dry. Rowan & Tong's No. 1 Massengale, a mile west of Cosden, has been abandoned at 4,530 feet. With the Grayburg test on the west held up for a time with a fishing job the well of next interest is William F. Morgan-Tidal Oil Co.'s No. 1 Perrira over in Goliad County and a little east of the Zoch gasser but on a line with the other production of the district. It was making a drill stem test Saturday of sand at 4,235-4,308 feet. There was 18 inches of sand that had shown some oil.

Darst Creek Field

W. H. Gee got a dry hole in the northwest part of the Darst Creek Field, but Penn-Tex's No. 1 Roamel early this week at 2,010 feet, not far from the Magnolia's big 42,000-bbl. well, was running about with the big Magnolia No. 1 Roamel and for that reason looking good. W. H. Gee's No. 1 Denman, just referred to as a dry hole, seemed to be in the chalk at 2,770 feet which was considerably too low though the geophysics had seemed to indicate it would be high. However, the geophysical instrument works on the gravity pull theory and a considerable mass of dense rock near the surface may have accounted for this.

There were four producers completed in the Darst Creek Field, none of unusual importance. Gulf's No. 2-A Dix-McKean came in for 1,800 bbls., Humble's No. 2 D. D. Baker for 800 bbls., Sun's No. 8 Knoblock for 1,700 bbls. and The Texas Company's No. 3 Dallas Wilson for 950 bbls.

Kendall County Producer

P. B. Sterling's No. 1 Werner in Kendall County finally hooked up to storage and was pumped last week. It started pumping late the week before but the pump broke down causing a delay. It began pumping again the first of last week and started off at the rate of about 100 bbls. of oil and 150 bbls. of sulphur water per day. Late in the week it had pumped to the bottom. The oil is 29.5 Baume. Seaboard Oil & Gas Co. plugged and abandoned its No. 1 Askey at 1,090 feet, a few miles away.

In Guadalupe County

Tidal Oil Co.'s No. 1 Seligman in Guadalupe County, which a week ago was looking like something, has drilled deeper. It got a little oil in the Austin chalk, enough to make the territory remain interesting, but last week was at 2,630 feet and in lime.

Oil in Medina County

Sunflower Oil Co. tested 100 feet of oil in 30 minutes on a drill stem test in its No. 1 Mofield in Medina County, 10 miles south of Hondo. It has set 900 feet of casing, the total depth being 925 feet. It is a wildcat test in Survey 532, about 3 miles due west of the Ina Field and the production is had at approximately the same depth as in the Ina Field.

Laredo District

Two 300-bbl. wells in the new area in Zapata County between the Jennings gas field on the west and the Randado oil pool on the east, and a 20-bbl. well by the Humble in the Kohler Pool in Duval County were the total of producers completed during the past week. There was one abandonment, the Southern Crude Oil Purchasing Co.'s No. 1 John Dunn at 4,002 feet, in Survey 480, after it had tested 15 fourbles of salt water and gas.

There were quite a number of new locations announced, scattered quite widely over the Laredo district and Henne & Winch, for a cash consideration and a drilling contract, have taken over the W. E. May well in Block 4, Survey 22, of the Cole Field in the Mariana Arispe grant. Deals are still one of the big items of news in the Laredo district. There have been about a dozen important trades in that territory in the last three or four weeks, denoting an activity that has not prevailed for some time. The purchase of Henne & Winch from W. E. May covered 350 acres, being Lots 3 and 4 in Survey 22 and Lots 9, 14, 15 and 16 in Survey 23 of the Mariana Arispe grant and about 1 mile northeast of the Magnolia Petroleum Co.'s No. 1 Benavides in the same grant. It will be remembered that the Magnolia's No. 1 Benavides, which had been a good gas well at about 1,750 feet, was deepened some weeks ago to about 2,750 feet and came in an oil well proving a new sand. Since then that area has been attracting a great deal of attention.

Cole Petroleum Co.'s No. 69 Benavides, 1½ miles northwest of the acreage purchased by Henne & Winch, is drilling below 1,800 feet. It had a little showing of oil at about 1,700 feet. Readers will recall that the Cole Petroleum Co. is testing its acreage for deep production and No. 68 Benavides is left standing at around 4,000 feet, a half mile to the southeast of No. 69. These two tests are in the midst of gas production at around 1,750 feet.

Henne & Winch are drilling No. 1 Rosa Benavides in Block 4, Survey 22, in the acreage purchased from W. E. May and are down below 1,000 feet.

Cuellar Territory

T. B. Slick in his new association with E. B. Rubsamen and Charles P. Cartter in the S. R. C. Co. got his first producer since the organization in No. 1 F. Cuellar in Zapata County in the new pool between the Jennings gas pool on the west and the Randado Pool on the east. The pool has never been given a good name. It is being called the Escobas Pool by some. The S. R. C. Co.'s No. 1 F. Cuellar is in the northern point of Survey 65, located 150 feet from the east line and 160 feet from the northwest line, and was swabbing at the rate of 300 bbls. per day from sand at 1,237-50 feet. The depth is about normal. The well is approximately a half mile west and a little north of the Muckelroy discovery well.

The other well in that pool was brought in by Nordan & Morris and is No. A-1 Trevino in Block 6 of Survey 65 from sand at 1,236-52 feet swabbing at the rate of 300 bbls of oil a day.

This territory and the territory at the northern point of the Cerrito Blanco grant about 6 miles north are now the most active spots in the Laredo territory. The two are frequently confused by some as being one pool due to a general term of "Jennings Pool" applied to all that territory. The Jennings gas pool is really off a couple of miles to the west of a line drawn from one pool to the other.

Humble Pipe Line Co. has completed laying its pipe line from the Randado Pool to the new pool in which the S.R.C. Co. and Nordan & Morris wells are located and has started to taking the oil.

O. & A. Company's No. 2 Garcia, in the same general area in Share 3 of Fansler's partition of the Comitas grant, at 1,027-41 feet got an estimated 8,000,000 feet of gas on a drill stem test and is drilling deeper. This is shallower than the other oil production and puts a new element into the field for consideration.

SOUTHWEST TEXAS

Branyon	25
Bruner	20,024
Buchanan	278
Dale	321
Darst Creek	25,212
Kingsville	105
Larremore	35
Luling	9,670
Lytton Springs	856
Manford	470
McMullen County	33
Medina County	22
Mirando	10,475
Pettus	3,700
Somerset	1,606
Yoast	483
Taylor	---
Total	73,315
Total week ending May 31	70,731
Increase	2,584

COMPLETIONS

Jennings Pool—Zapata County

Trinity Drillers, Inc.'s No. 1 Trevino, 450 feet west line, 150 feet north line, Block 8, Survey 66, total depth 1,266 feet, completed, estimated 100 bbls.

W. R. Shankle's No. 1 Cuellar, 61 feet northwest line, 200 feet southwest line, Block 15, Survey 65, total depth 1,250 feet, completed, estimated 150 bbls.

G. F. Owen's No. 2 Montemayor, 820 feet east line, 150 feet north line, Block 7, Survey 64, total depth 1,323 feet, completed, estimated 25 bbls.

John J. O'Hern's No. 1 Garcia, 150 feet southeast line, 150 feet northeast line, Share 3, Fansler Partition, Comitas grant, total depth 1,239 feet, pumping, flowing 10 bbls. per hour.

Livingston & Twiss' No. 1 Trevino, 150 feet north line, 150 feet west line, Block 7, Survey 66, total depth 1,275 feet, completed, estimated 50 bbls.

O. W. Killam's No. 25 Cuellar, 3,226 feet northwest line, 150 feet northeast line, Cerrito Blanco grant, total depth 1,541 feet, swabbing 300 bbls.

Cole Pool—Webb County

O. W. Killam's No. 18 Bruni, total depth 2,438 feet, sand 2,400-38 feet, completed, 70,000,000 feet gas, 820 pounds rock pressure.

French Oil Corp.'s No. 1 Rosa Benavides, 150 feet north line, 150 feet west line, Survey 659, total depth 2,352 feet, completed, estimated 100 bbls.

Darst Creek—Guadalupe County

Humble Oil & Refining Co.'s No. 1 Sallie Wilson, 150 feet north line, 183 feet west line of 50-acre tract in the J. C. Darst Survey, total depth 2,632 feet, swabbing 1,100 bbls. per day.

Humble Oil & Refining Co.'s No. 1 Yates Wilson, 150 feet from north line, 183 feet from west line of 10-acre tract in the J. C. Darst Survey, total depth 2,617 feet, swabbing 1,100 bbls. per day.

The Texas Company's No. 7-B C. Knoblock, 450 feet from northeast line

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WILDCAT OPERATIONS IN SOUTHWEST TEXAS

ATASCOSA COUNTY

Company, farm and location—	Remarks:
Frontier Oil Co.'s No. 1 Boynton, 1,000 ft. from S line, 3,700 ft. from E line of N. Flores Sur., 3 miles SW from Somerset Field	T. D. 1,020 ft.; drlg. in shale.

BASTROP COUNTY

Judge Batts and others' No. 1 Alexander, 1,670 ft. N of S line, 528 ft. E of W line, Blk. 3 in the W. M. Eastland Sur., 3½ miles NE from Red Rock	T. D. 2,218 ft.; drlg. in shale.
Pacific Oil & Gas Co.'s No. 2 J. Spooner, 300 ft. from N line, 400 ft. from W line in the L. Lavenuz Sur., 4½ miles E from Cedar Creek	T. D. 2,050 ft.; drlg. in shale.
Pacific Oil & Gas Co.'s No. 2 Spooner, 240 ft. from W line, 4,950 ft. from S line 450-ac. tract in the L. Levering Sur., 5 miles E from Cedar Creek	T. D. 600 ft.; drlg. sandy shale.
Majestic Pet. Co.'s No. 1 J. M. Breeding, 160 ft. from N line, 1,020 ft. from W line of 200-ac. tract, 940 varas from W line, 1,225 varas from S line of M. Andrews Sur., 13 miles W from Smithville	Spudded in.

BEE COUNTY

Rio Bravo Oil Co.'s No. 3 S.A.&A.P.R.R., 395 ft. S of Pettus Townsite in Kerr Sur.	Location.
Edwin M. Jones' No. 1 Rapp, 990 ft. SE of NW cor. of Sec. 11 of Razley Subd. in Jose Maria Urangua Sur.	Rig up.
Barnsdall Oil Co.'s No. 1 Roberts, 300 ft. each way out of NW cor. of 225-ac. lease in the George A. Kerr Sur.	Derrick.
Houston Oil Co.'s No. 1 Newman, 300 ft. from S line, 300 ft. from W line of 197-ac. tract offset to Cosden's well in J. A. Kerr Sur.	Building derrick.
Rio Bravo Oil Co.'s No. 1 S.A.&A.P.R.R., A. Smalley Sur.	Location.
Rio Bravo Oil Co.'s No. 2 S.A.&A.P.R.R., A. Kerr Sur.	Location.
Baxter Oil Co.'s No. 1 Mrs. H. J. Burns, 360 ft. from N line, 300 ft. from E line of N 100 ac. of 300-ac. farm in John Pace Sur., 2 miles W from Pettus	Location.
Rowan & Tong's No. 1 F. O. Massengale 350-ac., 150 ft. from S line, 3,184 ft. from W line of tract and survey, north John Pace Sur., 1½ miles W from Pettus Townsite	T. D. 4,530 ft.; abandoned; dry.
Ed Price's No. 1 Mrs. Laura E. Weiss, 200 ft. out of NW cor. of B.&B. 640-ac. Sur., E of Normanna, 6 miles W of Blanco Creek, in the B.&B. Sur.	T. D. 2,550 ft.; making drill stem test of sand.
Fisher & Wiggins' No. 1 A. J. Kimbell, C 189 acres in the Stephen Winship Sur.	T. D. 3,560 ft.; oil show; preparing to run csg.

New Deep Sand or Extension at Refugio

Several Possibilities Suggested by Helen Reilly Completion. Deep Tests in Progress Around Barbers Hill Dome. New Drilling Play

By Neil Williams
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., June 9.—What appears to be either an entirely new deep sand or lens or the extension of one of the other deep sands over a wide area has been proved for production at Refugio with the completion of Independent Oil & Gas Co.'s No. 1 Helen Reilly. This well, which encountered a deep sand at 5,656-65 feet, came in flowing approximately 270 bbls. of fluid, 25 per cent water, on a quarter inch choke with pressure of 1,500 pounds.

Although the well is not rated as a good producer considering the amount of water and the high pressure, its location in the gas producing area within the circle of 3,700-foot oil wells is of considerable interest. The location, which is in Lot 10 of Block 3, is in what has been looked upon as one of the highest points in the Refugio area and the test is the first in that part of the field to go below the old gas producing horizon and the 3,700-foot oil level which flanks the high gas area.

The sand found in the Helen Reilly is at an odd depth for the other deep producing horizons in the Refugio vicinity have run fairly uniform at 5,400-5,500 feet, 5,800-5,900 feet and 6,400-6,500 feet. Tests drilled to the latter three horizons have all been on the outside of the circle of 3,700-foot production on the south, east and northeast. If the sand in the Helen Reilly well is a continuation of one of these other sands it extends this sand a distance of at least a mile to the northwest and indicates the sand underlying the 3,700-foot sand field. If this is the case, with a large number of the older 3,700-foot wells going dead lately, it is probable many of these older wells will be deepened with the expectation of finding this deeper production. It also is likely new development will be started within the old gas producing area in search of the deep oil. As that area, which lies in the center of the oil production which flanks it, has been looked upon as strictly gas producing territory, and, there being more than ample gas production already available, there has been very little drilling there. No. 1 Helen Reilly was started in that part of the field as the logical place in which to make a thorough test of the extent of the deep horizons, considering the highness of the shallower sands.

If the sand in the Helen Reilly is not a lens or an entirely new sand it is possibly an extension of the 6,400-6,500-foot sand, in which so far only two wells have been completed, Union Producing Co.'s No. 1-A Rose Lambert and Mission Drilling Co.'s No. 1 Moss. The latter, brought in 10 days ago as a high pressure gas well spraying some oil from sand at 6,454-70 feet, is the nearer but it lies about a mile to the southeast of the new producer, and some three city blocks east of the 3,700-foot field. The Rose Lambert, which is about 1½ miles to the northeast of the Helen Reilly, failed to hold up and was abandoned soon after completion. The 6,400-foot sand tests have all been scattered indicating the existence of the sand over a wide area but all these tests have been outside the circle of 3,700-foot production.

It is possible the Helen Reilly is an extension of the 5,400-5,500-foot production had by a string of wells along the southeast side of the field but that would indicate a radical uncomformity as the dip would be in the opposite direction from that of the shallower sands. The only 5,800-5,900-foot production is approximately 2 miles northeast of the field where Union Producing Co.'s No. 1 M. F. Lambert made a 1,700-bbl. well. A second well, No. 2 M. F. Lambert, was completed in this sand but it made only from 10 to 15 bbls. daily and now tubing is being pulled to deepen.

Two additional high pressure wells were completed in the 5,400-5,500-foot sand during the week, these being Union Producing Co.'s No. 3 Powers and No. 3 Mitchell. The former in sand at 5,468-72 feet is spraying a little gasoline. The other at 5,465-68 feet also is spraying a little oil. It is likely both wells will show up increasing production with decline in pressures. Each well has a pressure of 1,900 pounds on the tubing and 1,650 pounds on the casing.

Refugio Completions

Completions at Refugio for several weeks have not been conducive toward greater production of the field, which, the past week, continued its steady decline. The daily average during the week was slightly more than 34,000 bbls. which is from 8,000 to 9,000 bbls. under the peak. The greater part of the development at Refugio now is for the deeper horizons and as a result the addition of new production is not nearly so great as it was during the flurry of townlot development for 3,700-foot production.

With the exception of one well, Mills Bennett Production Co.'s No. 1 Gulf-Fisher on the southeast side of the dome, there were no new developments at Barbers Hill. The Gulf-Fisher well came in flowing 3,200 bbls. pipe line oil daily one a five-eighths-inch choke from sand at 4,754 feet. It since has showed up considerable water. Yount Lee Oil Co.'s No. 1 Zadie Fisher, discovery well on the southwest flank of the dome, which has started a new drilling play along the southwest and west side, late in the week continued to flow at the rate of 1,718 bbls., 25 per cent water, on a half and a five-eighths-inch choke.

Not including the continued proving up of the deep production skirting the east, southeast and south sides of the dome, 13 deep tests now are underway scattered around the dome on the southwest, west, northwest and north sides. The latest additions are Rio Bravo Oil Co.'s No. 1 fee on the southwest, offsetting Humble Oil & Refining Co.'s No. 1 Meyers fee, drilling, and just to the south of Yount Lee Oil Co.'s No. 1 Zadie Fisher, and Humphreys Corp.'s No. 1-B Barber on the north, offsetting the same company's No. 1 Scott, drilling, and No. 1 Morgan. The latter, the discovery well of the north side, which sanded up after flowing a short time, still is fishing wash pipe. Humphreys Corp.'s No. 1-F Barber, second deep producer on the northwest flank, still is trying to pull screen to deepen.

Orchard Dome

Production on the south side of the Orchard Dome, Fort Bend County, was extended 400 feet to the west and the same distance to the east around the dome by the completion of Gulf Production Co.'s Nos. 21 and 22 Moore. No. 21 Moore, following the line of the dome to the eastward, came in flowing an estimated 100 bbls. daily at 3,995 feet. No. 22 Moore, moving the production line westward, came in flowing 1,500 bbls. daily at 4,118 feet. These make the third and fourth producers, respectively, on this side of the dome.

At Humble, The Texas Company's No. 1 Texas Pipe Line Co. fee, on the wildcat west side of the dome, was completed during the week flowing 104 bbls. of pipe line oil daily with screen set at 3,998 feet. Total depth of the hole was 4,089 feet. This well was the fourth producer completed in this area, and makes three now producing. Rio Bravo Oil Co.'s No. 1 fee, which failed to hold up, being worked over. One other completion was recorded at Humble, that being Humble Oil & Refining Co.'s No. 12 Williams on the south side of the dome. It came in flowing 250 bbls. daily at 5,186 feet.

Humble Oil & Refining Co. and Valley Oil Corp.'s No. 4 Sherrill at Raccoon Bend, Austin County, was put on the pump during the week and by agitation now is producing 355 bbls. daily from a depth at 3,575 feet. Other completions included Vacuum Oil Co.'s No. 27 Miller, Lockport, flowing 400 bbls., 30 per cent water, 4,382 feet; Yount Lee Oil Co.'s No. 51 McFaddin, Spindletop, an old well deepened to 5,293 feet, flowing 640 bbls., and the same company's No. 32 Gladys City, Spindletop, a workover, pumping 68 bbls., 3,801 feet.

The Texas Company is due for completion of its fifth well in its Port Neches Field, southwestern Orange County. This company's No. 2 Stark is in sand and shale showing oil and gas at 4,124-44 feet and has cemented 6⅝-inch casing at 4,103 feet. This is the deepest yet drilled at Port Neches in this area, the four producers so far completed having found the pay at 3,100-3,200 feet. No. 2 Stark is approximately 500 feet west of production. No. 2 Kuhn, a south offset, now drilling is below 3,400 feet.

Daily Average Production

Daily average production of coastal fields for the week ended June 7 totaled 200,721 bbls., which was virtually unchanged from that of the week before despite several fluctuations of individual fields. Appreciable declines were made at Humble, Refugio and Hankamer, but these were offset by gains at North Dayton, Spindletop and scattered fields. Figures by fields for the week were:

SOUTHEAST TEXAS

Allen	23
Barbers Hill	23,695
Batson	1,206
Big Creek	4,444
Blue Ridge	1,884
Brenham	165
Boling	1,148
Clay Creek	1,716
Damon Mound	696
DeWalt	11,690
Fannett	976
Goose Creek	4,612
Hankamer	2,424
High Island	1,357
Hull	9,931
Humble	14,903
Jasper County	20
Lost Lake	635
Markham	315
Nash	353
North Dayton	2,885
Orange	2,370
Orchard	1,581
Pierce Junction	9,822
Port Neches	1,508
Raccoon Bend	12,107
Refugio	34,233
Esperson (Sheeks)	2,298
Saratoga	1,048
Sour Lake	2,462
South Liberty	4,332
Spindletop	17,070
West Columbia	5,722
Total Southeast Texas	179,599
Week ending May 31	179,030
Increase	569

SOUTH LOUISIANA

Anse La Butte	37
Bayou Blue	75
Bayou Bouillon	29
Black Bayou	810
Edgerly	624
Jennings	804
Hackberry	3,036
Lake Barre	790
Lake Pelto	183
Lockport	2,325
Port Barre	3,651
Sorrento	232
Starks	540
Sulphur	3,830
Sweet Lake	106
Vinton	2,961
Welsh	151
White Castle	934
Total South Louisiana	21,122
Total week ending May 31	21,664
Decrease	542
Total Gulf Coast	200,721
Total week ending May 31	200,694
Increase	27

GULF COAST FIELDS AND WILDCATS

Week Ended June 7

BARBERS HILL—CHAMBERS COUNTY

Mills Bennett Production Co.'s No. 4 Wilburn, southeast	Rigging up to pump 5,268 ft.
Mills Bennett Production Co.'s No. 10 Barrow, southwest	Drlg. shale 2,122 ft.
Mills Bennett Production Co.'s No. 3 E. W. Barber, north	Drlg. rock 1,235 ft.
Mills Bennett Production Co.'s No. 1 Gulf-Fisher, south	Comp. flowing 3,200 bbls. oil 4,754 ft.
Mills Bennett Production Co.'s No. 3 Gulf-Higgins, southeast	Drlg. hard lime 3,812 ft.
Mills Bennett Production Co.'s No. 2 Wilburn (workover)	Pulling screen to deepen 5,159 ft.
Gulf Production Co.'s No. 4 Wilburn, southeast	Rigging up to pump 5,135 ft.
Humble Oil & Ref. Co.'s No. 1 fee, west	Rig.
Humphreys Corp.'s No. 1-B Barber, north	Derrick.
Humphreys Corp.'s No. 1-F Barber, northwest	Fishing cutting tool 6,492 ft.
Humphreys Corp.'s No. 9-A Kirby, northwest	Spudded.
Humphreys Corp.'s No. 6-A Barber, northwest	Derrick.
Humphreys Corp.'s No. 2-C Kirby (workover)	Drlg. oil sand 5,134 ft.
Humphreys Corp.'s No. 1 Morgan	Fishing wash pipe 6,404 ft.
Humphreys Corp.'s No. 2 Scott	Drlg. shale 7,197 ft.
Humphreys Corp.'s No. 3-H Kirby (workover)	Drlg. hard sand and lime 5,920 ft.
McAlbert Oil Co.'s No. 6 Woodward, east	Drlg. shale 3,598 ft.
Rio Brano Oil Co.'s No. 1 Fee, southwest	Rig.
Sinclair Oil & Gas Co.'s No. 3 McKinney fee	Drlg. 5,649 ft.
Sinclair Oil & Gas Co.'s No. 4 McKinney fee, southeast	Derrick.
Sinclair Oil & Gas Co.'s No. 7 Wilburn, southeast	Drlg. lime rock 2,094 ft.
Sun Oil Co.'s No. 5 Wilburn fee, southeast	Tested salt water 5,471 ft.; pulling screen.
Sun Oil Co.'s No. 5 J. Wilburn, southeast	Drlg. shale and lime 5,309 ft.
Sun Oil Co.'s No. 7 J. Wilburn	Drlg. rock 2,071 ft.
Sun Oil Co.'s No. 5 Chambers, south	Rock 2,299 ft.
Sun Oil Co.'s No. 1 O. K. Winfree, west	Spudded.
The Texas Company's No. 4 Wilburn	Drlg. lime rock 1,731 ft.
Yount Lee Oil Co.'s No. 14 Chambers, south	Oil sand 5,561 ft.
Yount Lee Oil Co.'s No. 4 Phillips, southeast	Drlg. gumbo 2,065 ft.
Yount Lee Oil Co.'s No. 7 Woodward, southeast	Fishing pipe 4,243 ft.
Yount Lee Oil Co.'s No. 2 Zadie Fisher, southwest	Drlg. gumbo 1,647 ft.
Yount Lee Oil Co.'s No. 5 Richardson, southwest	Drlg. shale and lime 2,131 ft.

RACCOON BEND—AUSTIN COUNTY

Humble & Valley's No. 5 Bellville	Rig.
Humble & Valley's No. 1 Brown	Drlg. shale 1,900 ft.
Humble & Valley's No. 3 Buchanan	Derrick.
Humble & Valley's No. 1-B Hardy (Waller County)	Repairing derrick 3,751 ft.
Humble & Valley's No. 2-B Hardy	Location.
Humble & Valley's No. 1-C Mitchell	Cemented csg. 2,403 ft.

(Continued on Page 118)

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Hobbs Pool, N. M., Given Short Thrill

Shell Well Blows in Making 35,000,000 Feet of Gas and Spraying Several Hundred Barrels of Oil. Important Colorado Showings

By Tolbert R. Ingram
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., June 9.—The Hobbs Pool in Lea County, New Mexico, was given a short thrill when the Shell Petroleum Corp.'s No. 1 State, 1¼ miles southeast of the Humble Oil & Refining Co.'s No. 1 Bowers, began making 35,000,000 feet of gas and spraying several hundred barrels of oil at 4,004 feet. It will be drilled deeper. The Atlantic Oil Producing Co. made two locations, one in the Hobbs area and one in the Eunice area, the first operations by that company. Several Hobbs wells are showing up favorably and indicate the field is spreading out. Texas Pacific Coal & Oil Co. has made a new location near its wells in the Cooper area. Water was encountered at 1,090-1,103 feet in the Pecos Valley Gas Co.'s No. 6 Vandergriff in the Artesia district.

Two important showings of oil were reported in Colorado wildcats, one in the Platte Petroleum Co.'s Greasewood test in Weld County and one in the Producers & Refiners Corp.'s test on the Pole Mountain structure in Jackson County. The Jones interests of Kansas City will drill a deep test in the southeastern corner of Colorado and the Magnolia Petroleum Co.'s wildcat on Piceance Creek in Rio Blanco County, is showing some saturation.

The Dallas and Derby Dome properties of the Dallas Dome Wyoming Oilfields Co. in Fremont County, Wyoming, have passed to the control of companies with which John Hays Hammond is identified. The Osage Field in northeastern Wyoming has another well which put 60 bbls. into the tank in four hours and again attracts attention to the western side. A 75-bbl. well was completed in the LaBarge Field in southwestern Wyoming by Charles S. Hill. Elk Basin and Big Muddy, in which drilling has been at a standstill for several years, are again in the drilling reports with one well each.

NEW MEXICO

Hobbs Area—Lea County

The Shell Petroleum Corp.'s No. 1 State, SE SW NE, Section 32-18-38, in the Hobbs Pool in Lea County, encountered a pay at 4,004 feet and blew in making an estimated flow of 35,000,000 feet of gas and spraying between 200 and 500 bbls. of oil. The well has been brought under control and mud is being circulated to kill the gas and drill deeper. The location is 1¼ miles southeast of the Humble Oil & Refining Co.'s No. 1 Bowers and, on the elevation of the base of the salt above sea level, appears to be running about 40 feet higher. It has had a number of shows of oil and gas. It topped the brown lime at 2,753 feet and at 3,136-44 feet tested 279 bbls. of 39 gravity oil in 18 hours. It had 3,000,000 feet of gas at 2,767 feet and increases in oil and gas at 3,178-86 feet. At 3,850 feet it was showing considerable oil and the pipe was set at that depth.

An indication of the activity in the Hobbs area is the way in which the three townsites are booming. Hobbs is located in the center of the S half, Section 34-18-38, New Hobbs in the NW Section 2-19-38, and All Hobbs about a mile away. The Texas Pacific Coal & Oil Co.'s No. 1-G State, SE cor., Section 24-18-37, 1¼ miles to the northwest of the Humble Oil & Refining Co.'s No. 1 Bowers, which has been making 7,500 bbls., had a show of oil at 3,212-15 feet and is drilling at 3,240 feet. This well appears to be running high as measured on the base of the salt. It bottomed the salt at 2,520 feet and the elevation is 3,666 feet. Humble's No. 1 Bowers bottomed the salt at 2,560 feet and the elevation is 3,659 feet. These figures indicate the Texas Pacific's well is running about 47 feet higher. Likewise, the Tidal Oil Co.'s No. 1 Grimes, SW NE SE, Section 29-18-38, 1 mile east and a little south of No. 1 Bowers, is showing up favorably. It appears to be running 15 to 30 feet higher than the Humble well. It had a gas show at 2,792-2,836 feet and increased to around 2,000,000 feet a day at 2,875 feet. It also had a show of oil at 3,131 feet. One new location was announced, Atlantic Oil Producing Co.'s No. 1 State, 330 feet each way out of the NE cor., Section 6-19-38, the first location in the Hobbs area by this company, which probably will call for offsets by the Shell, Gypsy and Midwest companies. Fisher & Lowrie's No. 1 State, NE cor. NW, Section 11-18-36, 9 miles to the west and north of the nearest producer, which was showing some oil at a total depth of 5,199 feet, has not yet been drilled deeper. Other drilling operations include:

Midwest Refining Co.'s No. 13 State, SE NE NW, Section 15-19-38, is fishing for tools at 2,970 feet. It bottomed the salt at 2,695 feet and the elevation is 3,603 feet. Same company's No. 1 State, NE cor. NW, same section, is drilling at 2,630 feet in anhydrite. Prairie Oil & Gas Co.'s No. 1 Crump, NW cor. NE, Section 15-19-38, is drilling out cement plug at 3,227 feet after setting 8¼-inch. Same company's No. 2 Crump, one location south in the SW NW NE, Section 15, is drilling out cement at 3,186 feet, and its No. 1 Selman, NW SW NE, Section 15-19-38, is drilling out cement at 3,225 feet. Texas Production Co.'s No. 1 Selman, NW cor. SE, Section 15-19-38, is building rig.

Midwest Refining Co.'s No. 36 State, SE cor. SW, Section 10-19-38, is drilling at 3,715 feet in anhydrite, and Walker Oil Corp.'s No. 2 Terry, SW cor. SE, Section 10, is drilling at 3,263 feet and had a show of oil at 3,260 feet. Midwest's No. 33 Byers, SE SW NE, Section 4-19-38, is drilling at 3,110 feet in lime and had a show of gas at 2,805-25 feet. It bottomed salt at 2,620 feet. Same company's No. 8 State, C NW NW, Section 4-19-38, is rigging up rotary, and Sun Oil Co.'s offset on the west, its No. 1 McKinley, C NE NE, Section 5-19-38, is drilling at 1,100 feet (corrected) in red rock. Texas Production Co.'s No. 1 McKinley, NE NW SW, Section 4-19-38, is still a location. Hobbs High, Inc.'s No. 1 Tatum, NW SW SW, Section 35-18-38, near New Hobbs Townsite, is drilling at 1,785 feet in anhydrite and red beds.

Shell Petroleum Corp.'s No. 1 State, SE SW NE, Section 32-18-38, which set pipe on top of a pay at 3,850 feet, is coring at 3,858 feet, and its No. 2 State, NW SW NE, Section 32-18-38, is drilling at 1,953 feet in salt. Ohio Oil Co.'s No. 1 State-Northrup, NE NW SE, Section 32-18-38, is drilling at 3,520 feet after stopping to test pay at 3,133-39 feet which made 475 bbls. in 34 hours. Same company's No. 2 State-Northrup, C SE SE, Section 32-18-38, joint with Independent Oil Co., is rigging up rotary. Amerada Petroleum Corp.'s No. 1-A State, SW NW NE, Section 32-18-38, set the 9-inch at 2,739 feet. It bottomed the salt at 2,510 feet. Gypsy Oil Co.'s No. 1 Grimes, NW cor., Section 32-18-38, is bottomed at 3,430 feet and mixing mud; had show of gas at 2,733 and 2,757 feet and increase at 2,983 feet. First show of oil was at 3,150 feet and considerable oil at 3,215-30 feet, but no test was made. Empire Gas & Fuel Co.'s No. 1 Fowler, NE cor., Section 31-18-38, is bottomed at 2,755 feet with 8¼-inch at 2,745 feet. Ohio Oil Co.'s No. 1 State, NE cor. SW, Section 30-18-38, is drilling out cement at 2,750 feet, where 9⅝-inch was set. W. C. McBride, Inc.'s No. 1 McKinley, SE cor. NE, Section 30-18-38, has rig completed. Amerada Petroleum Corp.'s No. 1 McKinley, NW cor., Section 30-18-38, is drilling at 3,425 feet and passed up without testing a pay at 3,220-28 feet, and its No. 2 McKinley, SE cor. NW, Section 30-18-38, is drilling at 3,095 feet and had shows of oil at 2,928-32 and 3,095 feet. George F. Getty, Inc.'s No. 1 McKinley, SW cor. NE, Section 30-18-38, cemented 9⅝-inch at 2,758 feet. Base of the salt was at 2,515 feet and elevation 3,654 feet. Same firm's No. 2 McKinley, SW SE NE, Section 30, cemented 9⅝-inch at 2,755 feet, and its No. 3 McKinley, NW SE NE, same section, has cellar completed. Humble Oil & Refining Co.'s No. 2-A Bowers, NW cor. SE, Section 30-18-38, is drilling at 2,675 feet in anhydrite, and its No. 4 Bowers, SE cor., Section 30, is drilling at 1,158 feet. Its Nos. 5 and 6 Bowers, in the same 40 as its big gusher, have made no additional progress. California Co.'s No. 1 Grimes, NW SE SE, Section 29-18-38, is drilling at 2,535 feet in anhydrite. Base of the salt was at 2,525 feet and elevation 3,647 feet. Continental Oil Co.'s No. 1-A State, SE NW SE, Section 29-18-38, is still a location, and Humble's No. 3 Bowers, SW cor., Section 29, is drilling below 1,304 feet. Humble's No. 7 Bowers, SW cor. NW, Section 29-18-38, has commenced spudding. Shell Petroleum Corp.'s No. 1 McKinley, SW cor., Section 19-18-38, set 7-inch at 3,880 feet. Landreth Production Co.'s No. 1 State, SW cor. SE, Section 7-18-38, cemented 12½-inch at 1,725 feet and is rigging cable tools. Texas Production Co.'s No. 1-C State, NE cor., Section 25-18-37, is drilling at 1,926 feet. Top of salt was at 1,640 feet and elevation 3,664 feet.

Eunice Area—Lea County

Ohio Oil Co.'s No. 1 State-McDonald, SW NW SW, Section 15-22-36, which was delayed several weeks by water shortage, is drilling at 1,040 feet. Tidal Oil Co.'s No. 1 Coleman, SW cor. NE, Section 17-21-36, set 9⅝-inch casing at 2,915 feet. Atlantic Oil Producing Co. has made a location a half mile northwest of Tidal well in its No. 1 Coleman, SW NE NW, Section 17-21-36. The footage is 990 feet from north line and 1,650 feet from west line. Empire Gas & Fuel Co.'s No. 1 Closson, NE NW SE, Section 6-22-36, has been completed, an expensive and troublesome test, especially after it reached a depth of 3,500 feet where it had a flow of gas estimated at 100,000,000 feet. The well was drilled to a total depth of 4,237 feet where it had considerable sulphur water. It was plugged back to 3,841 feet and is averaging 145 bbls. a day of 35.6 gravity oil with 5 per cent water and 250,000 feet of gas. The elevation is 3,573 feet; base of the salt 3,060 feet and top of brown lime at 3,075 feet. The pay was found at 3,737-40 feet.

Cooper Area—Lea County

Texas Pacific Coal & Oil Co.'s No. 5 State, 660 feet west of east line and

(Continued on Page 124)

THREE WELLS IN RED COULEE FIELD PRODUCING OR CLOSE TO PRODUCTION

By Victor Lauriston
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, June 7. — The international Red Coulee Field has come to the forefront with three wells which are either actually producing or very close to production. Of these two are on the Alberta end of the structure and one in Montana.

On the Alberta end, Alberta Pacific Consolidated Oils' No. 1, LSD 2, Section 3-1-16w4, offsetting Vanalta's No. 1 discovery well to the east, cut the Vanalta sand at 2,475 feet, when oil rose a little distance in the hole. Casing was run and production tested; it is reported between 40 and 50 bbls. It is understood drilling will be carried deeper, and a shot may be tried. It is stated the well checked 8 feet higher than the discovery.

Southern Alberta Exploration's No. 1, LSD 8, Section 3-1-16w4, is reported to have entered the Sunburst sand at 2,415 feet, developing a fair gas flow, estimated 2,000,000 feet. It is being deepened with further showings reported around 2,440 feet. The strike came as a surprise, as Commonwealth Petroleum's No. 1, a half mile north, is drilling in the Madison without encountering either oil or gas in the upper horizons.

On the Montana side, Mid-Continent Oil & Refining Co.'s No. 2 Farbo, Section 2-27-4w, got a good gas flow at 2,390 feet which jammed the tools. Drilling is continuing at 2,425 feet. Initial gas flow was similar to Cosmos Petroleum's No. 1 Thacker, and Mid-Continent is planning to deepen to the Ellis for larger production. The gas sand at 2,390 feet is claimed to be the Sunburst. The Mid-Continent has announced an extensive drilling program. No. 3 test has rig up, while No. 4 has been located offsetting Alberta Pacific's No. 1, and No. 5 offsetting Ohio Oil Co.'s No. 1. Mid-Continent's No. 6 is spotted offsetting Cosmos' No. 2.

Cosmos Petroleum Co.'s No. 1 Thacker, Section 2-37-4w, is reported averaging 360 bbls., with 7,752 bbls. delivered to May 27. Cosmos' No. 2 Thacker, same section, west of No. 1, is drilling. Huso Brothers' No. 1, NE, Section 1-37-4w, unofficially reported abandoned, is deepening after cementing 5-inch at 2,510 feet, following the gas strike in Southern Exploration's No. 1. Dakota-Montana Oil Co.'s No. 1, NW, Section 13-37-4w, is reported spudded.

Nine miles southwest of Cosmos' No. 1, Carnegie Petroleum's No. 1, SE, Section 28-36-4w, has spudded in.

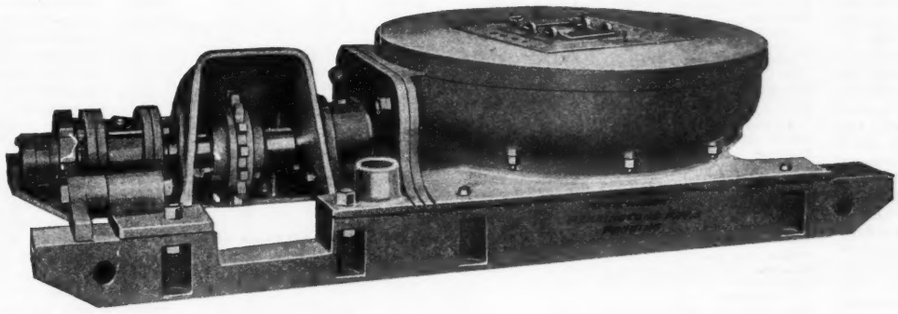
On the Alberta end, Commonwealth Petroleums' No. 1, LSD 10, Section 3-1-16w4, is drilling 130 feet in the Madison lime at 2,742 feet. The company hopes to get production in the "break" around 2,835 feet. This is the first Red Coulee test to get into the Madison.

Devonshire Oils' No. 1, LSD 3-4, Section 10-1-16w4, is reported drilling at 1,284 feet. Celtic Oils' No. 1, Section 17-1-16w4, is reported spudding in. Dalco's No. 2, LSD 7, Section 19-2-17w4, is reported rigging up. Shasta Oils' No. 1

(Continued on Page 121)

OKLAHOMA FIELDS TESTED

"GUMBO BUSTER" *Oil Bath* ROTARY



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[Pages 10 to 14 of Composite Catalog of Oil Field and Pipe Line Equipment illustrate part of "Gumbo Buster" Line.

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California Production Below 600,000

First Time Since October, 1926, Due to Eclipse of Santa Fe Springs and Progress of Curtailment Movement

By L. P. Stockman
Staff Correspondent, California Fields .

LOS ANGELES, Calif., June 7.—The past several weeks have been rather uneventful from a development standpoint in California, due to a considerably smaller number of completions, but the dearth of material from a drilling standpoint has been more than offset by developments of general interest. During this temporary lull in development work renewed attempts have been made to bring state production down to the allotted maximum of 596,000 bbls. per day. As a result of this concerted movement California's daily production has been brought down below the 600,000-bbl. mark for the first time since October 1, 1926, at which time state production averaged approximately 598,000 bbls. per day for about two weeks, and, while current production is still somewhat in excess of the curtailment goal, it is within striking distance. While commenting on the substantial reduction in crude oil production which has taken place in California during the past several weeks, it would not be amiss to call attention to the fact that a considerable part of the drop registered is due to a normal decline in production and the completion of fewer wells during the period in question. The drop in production, therefore, can be attributed to a combination of both crude oil curtailment and the scarcity of new completions, with the latter a far more important factor than appears on the surface.

The sudden but not unexpected termination of flush production at Santa Fe Springs has been a deciding factor in curtailment work, and, with the period of flush production in this field a thing of the past, operators are in a much better position to reach their curtailment objective. Enforcement of curtailment measures is much easier in a period of descending production, so that if Elwood and other fields remain in line state production may be brought down to the maximum allowable within the next few weeks. The abnormal drop in potential production which has taken place at Santa Fe Springs will within a short time remove this field as the dominating factor in state production unless operators open up many of the wells which have been shut down for a number of months. It is quite obvious of course that production at Santa Fe Springs will not continue to register a substantial decline from week to week for an indefinite period of time. The production curve has already flattened out and will, therefore, make it obligatory for producers to continue curtailment work as the decline from now on will be considerably slower than heretofore.

Curtailment Limits

The Operators General Committee on curtailment, upon completion of its work of last month, set the expiration date for present curtailment work as November 1, 1930. The expiration date was predicated on the theory that the present crisis would be passed by that date and that in the meantime refiners and pipe line companies would be able to liquidate a part of the excess stocks of crude and refined oils which have been a serious menace to stabilization. It is interesting to note in this connection, however that while the committee is of the opinion that the production situation should be alleviated within the next five or six months, it did not issue any statement that the rainbow and proverbial pot of gold would be found around November 1. As a matter of fact, it will be several years before any normal degree of stability can be effected due to the substantial amount of settled production and additional vast production possibilities in sight.

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Commodity—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Crude oil	.....	.....	.....	.....	68,690	492,395
Fuel oil	.....	.....	.....	.....	71,950	49,950
Diesel and gas oil	92,043	13,149	65,880	9,411	1,699,967	834,415
Gasoline	224,132	32,019	383,122	54,732	6,974,420	8,186,772
Naphtha distillate	.....	.....	.....	.....	.....	81,750
Coastwise—						
Crude oil	83,177	11,882	145,092	20,727	6,317,604	10,297,779
Fuel oil	320,734	45,519	421,175	60,168	7,385,086	9,246,070
Diesel and gas oil	25,721	3,674	25,770	3,681	789,472	650,894
Gasoline	209,060	29,866	252,940	36,134	4,753,730	4,312,707
Kerosene	.....	.....	17,970	2,567	71,497	29,456
Exports—						
Crude oil	183,194	26,171	77,075	11,011	2,767,680	2,039,266
Fuel oil	297,700	42,529	486,942	69,563	7,581,213	7,895,400
Diesel and gas oil	40,500	5,786	.....	.....	1,981,990	1,246,228
Gasoline	157,986	22,569	344,423	49,203	6,567,770	4,186,383
Kerosene	197,502	28,215	.....	.....	1,719,978	1,157,399
Lubricants	.....	.....	.....	.....	10,082	.....

TANKER SHIPMENTS FROM SAN FRANCISCO TO ATLANTIC AND GULF COAST PORTS

Diesel and gas oil	.....	.....	.....	.....	88,280	.....
Gasoline	129,730	18,533	71,762	10,262	641,680	1,050,732
Lubricants	.....	.....	2,920	417	5,866	.....
Coastwise—						
Fuel oil	43,766	6,252	77,072	11,010	1,603,643	1,036,609
Diesel and gas oil	8,650	1,236	7,751	1,107	152,544	284,312
Gasoline	93,836	13,405	95,094	13,585	1,761,169	1,837,505
Kerosene	.....	.....	8,016	1,145	119,387	43,824
Exports—						
Crude oil	.....	.....	.....	.....	3,075	121,603
Fuel oil	32,940	4,706	6,501	929	481,000	241,671
Diesel and gas oil	53,000	7,571	54,450	7,779	231,990	124,838
Gasoline	.....	.....	60,140	8,591	1,522,369	2,323,319
Kerosene	95,075	13,582	20,600	2,943	367,124	290,863
Lubricants	12,500	1,786	.....	.....	13,677	17,688

In view of dormant deep zones at Inglewood, Dominguez, Coyote, Seal Beach and Belridge and the probability of increased production at Kettleman Hills and other promising areas, California is faced with at least five years of overproduction, the amount and degree of surplus production being dependent upon the intensity of work and the chronological order in which drilling operations are started in each of the fields in question. In addition to the group of fields already mentioned, it is logical to assume that additional productive areas will be discovered from time to time as a result of progressive prospecting work. This brings up a rather interesting question with respect to the existing curtailment period, because, in view of the numerous prolific dormant fields awaiting development, it would seem that the curtailment of production at the present time merely prolongs a serious crisis which must be met sooner or later. The whole situation resolves right back to the possibility of regulating production for the next several years. In other words, will operators be able to curtail production indefinitely, or will someone kick over the traces and void the attempt to maintain an artificial equilibrium.

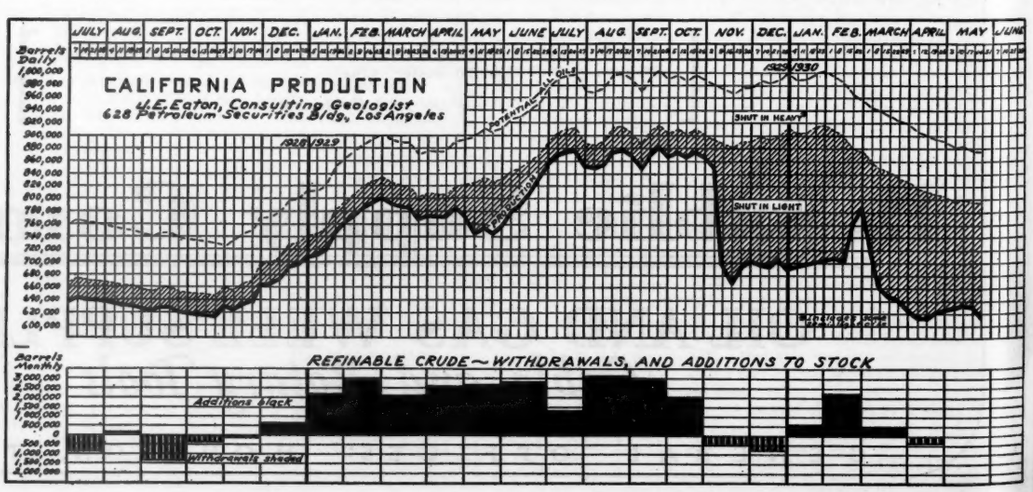
Competitive Drilling

This is a very important question because the simultaneous development of any two prolific fields would result in chaos. Competitive drilling in any one field at the present time would have a similar disastrous result. This is particularly true of Inglewood, and, while the same degree of intensity will probably not characterize drilling operations at Kettleman Hills, the quality of oil and substantial production secured would accomplish the same results with fewer wells. It is quite obvious that some method must be resorted to during the next several years if the impending overproduction situation in California is to be prevented or retarded until such time that this anticipated large volume of oil can be absorbed without wrecking the entire picture. It remains to be seen just how long operators will be able to regulate production in view of the fact that the consent of lessors must be secured in order that the validity of leases might not be jeopardized by the failure to fulfill contractual obligations which usually call for a minimum amount of drilling. A temporary suspension of drilling and production activities is of course mutually advantageous because the lessor will in the end receive more money for the amount of crude and natural gas produced if development work can be held off until the price of raw material justifies development. Conversely, if any lessor forced an operator to undertake a drilling campaign at the present time it would be tantamount to a cut in the price of crude for the simple reason that refiners would be obliged to store a large part of the oil produced.

Ventura Avenue

The Shell Oil Co.'s field department had its hands full at Ventura Avenue during the past week due to the completion of five new wells, two of which came in prematurely. The best well finished was No. 52 Taylor, which blew in flowing 1,225 bbls. of 30.6 gravity oil from the shallow sand at 4,920 feet during the course of a water test through the 13¾-inch landed and cemented at 4,800 feet. This new well is flowing through a seven-sixteenths inch bean under a pressure of 450 pounds on the tubing and 1,065 pounds on the casing. Within a short time after this well was turned into the tanks, No. 34 Gosnell started flowing from 7,563 feet. This new producer tanked 862 bbls. during the initial 24 hours following completion and is still holding up in good shape. Nos. 49 and 50-A on the Taylor lease, two other wells finished by the Shell in this field during the week, were good for 710 bbls. and 195 bbls., respectively, the former being finished at 7,064 feet and the latter in the shallow sand at 3,826 feet. No. 51 Taylor, another shallow zone completion, was good for 130 bbls. initially from 4,834 feet. The completion of these five new wells by the Shell gives the company seven successful completions at Ventura Avenue within the past 30 days, four of which were finished in the shallow sand.

The Associated, which has finished one new producer at Ventura Avenue during the past month, should have several more on production shortly. Considerable new work is getting under way in this field but these new projects will not be reflected in production for several months to come with the result that production should taper off during the intervening period. The Shell is rigging up Nos. 57, 58 and 59 on the Taylor lease and is building rigs for Nos. 62, 63 and 64 on the same property. The Associated recently spudded in Nos. 40, 57 and 96 on the Lloyd property and is rigging up No. 95 presumably for early work. Several new wells have also been started in the Rincon Field of Ventura County reflecting the recent successful completion of No. 2 Ferguson, a tideland project of the


JULY AUG. SEPT. OCT. NOV. DEC. JAN. FEB. MARCH APRIL MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC. JAN. FEB. MARCH APRIL MAY JUNE
Barrels Daily
CALIFORNIA PRODUCTION
U.E. Eaton, Consulting Geologist
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1928/1929
1929/1930
SHUT IN HEAVY
SHUT IN LIGHT
REFINABLE CRUDE — WITHDRAWALS, AND ADDITIONS TO STOCK
Barrels Monthly
Additions black
Withdrawals shaded

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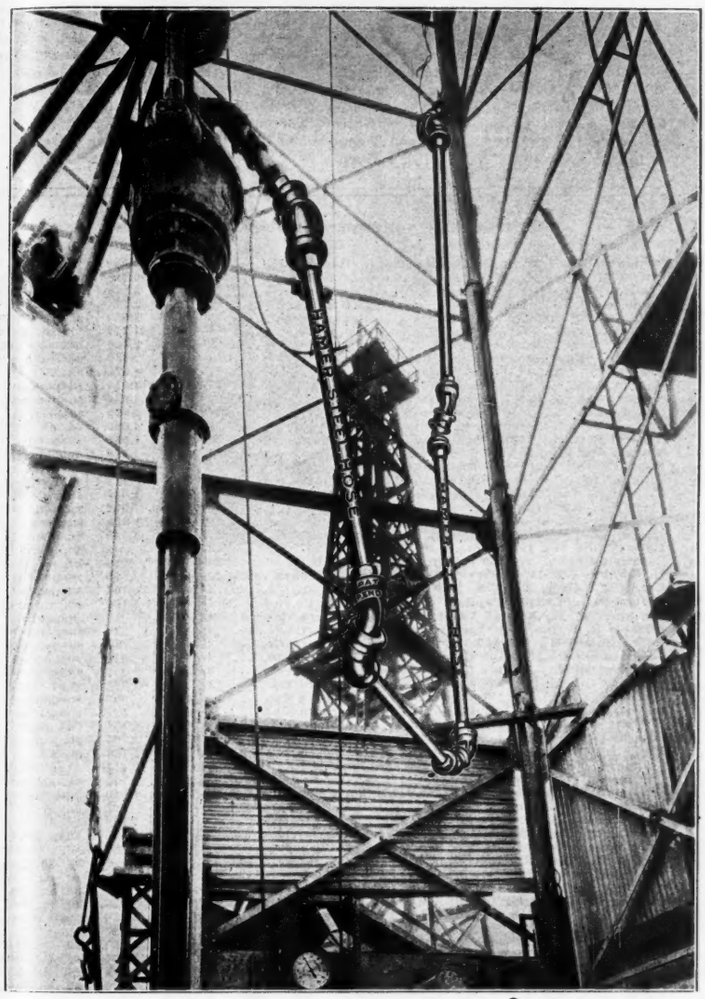
The Fluid Passage Thru the Joints Is Larger Than the Pipe



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General Petroleum, located out in the open ocean at the end of a 1,400-foot specially constructed pier. Most of the new wells which have been spudded in at Rincon are tideland projects located on state leases adjoining the General Petroleum's Ferguson permit. Neil C. Needham has his initial test on Permit No. 58 down below the 600-foot level, while the Rincon Oil Co. is making hole in No. 1 Shude on permit No. 82 at 580 feet. The Seacliff Development Co. has just passed the 1,000-foot level in its well No. 1 on tideland permit No. 56, while the Indian Petroleum Co. is slightly deeper in No. 1 Boone, located on tideland permit No. 81.

Midway-Sunset

Drilling wells in the Maricopa Flats section of the Midway-Sunset Field of Kern County are getting considerably fewer in number with the result that completions in this area will be less frequent as time goes on. During the past week two new wells were finished in the Midway-Sunset Field, neither of which, however, registered substantial production. In Section 4-11-23 the Lakeview Oil & Refining Co. puts its well No. 16 on the beam at 3,250 feet and it was finished pumping 198 bbls. of exceptionally clean 26.1 gravity oil daily. The Republic Petroleum Co. successfully finished No. 37 Fee in Section 7-32-23 pumping 358 bbls. of clean 22.1 gravity oil daily from 2,966 feet. The Chanslor-Canfield Midway Oil Co. is making preparations to complete its No. 9 in the same section and this project should be tanking oil within the next two weeks.

Drilling operations in the Mount Poso and Round Mountain Fields of Kern County have shown a substantial increase during the past several weeks, and, while many of the wells now under way will be eligible for completion within the next 30 or 60 days, this should not upset field production due to curtailment work. In the Mount Poso Field the Pacific Western Oil Co. finished No. 7 King this week at 1,550 feet, but it was shut in subsequent to completion without any test being made to ascertain its potentiality. The General Petroleum is making preparations to finish No. 14 Glide, a new well scheduled for a production test within the next few days. New wells either already spudded in or scheduled to get under way shortly include No. 12 Heisen of the General Petroleum, Nos. 6 and 7 on the Glide Vedder lease of the Pacific Western Oil Co., No. 5 Gardiner of the Petroleum Securities and Fred Sayre's No. 1 Lawrence. Six wells are actually under way in the Round Mountain Field at the present time with three new locations staked.

The Belridge Oil Co. has not yet recovered the liner used in its recent production test on No. 15 Fee, a deep test in the North Belridge Field of Kern County, and consequently has not yet started to deepen this potential producer farther into the Temblor. It is quite likely, however, that the hole will be cleaned out soon, at which time drilling will be resumed at 5,088 feet, with a good chance of stimulating production with the addition of more hole. If this project results in substantial production, it will prove up the existence of Temblor production at North Belridge, which many believe will be comparable with Kettleman Hills. The Richfield Oil Co. is contemplating drilling a deep test at North Belridge in Section 22-27-20, approximately 2 miles south of the Belridge Oil Co.'s No. 15. It is believed quite probable that the Richfield will take its time with this work in order to retard completion so that subsequent drilling operations can be held back. Development work in the Fruitvale Field of Kern County is practically negligible at the present time and will continue at a slow rate indefinitely.

Playa Del Rey

Some idea of the potentiality of the Playa Del Rey Field of Los Angeles basin should be secured within the next few weeks as several wells have reached the interesting stage. The Union Oil Co. succeeded in effecting a satisfactory water shut-off in No. 1 Del Rey and is at the present time coring ahead in order to determine the extent and thickness of the shallow sand found just above the 3,500-foot level. This upper sand was found unproductive by the Ohio Oil Co. in No. 2 Recreation, but the Union's field department, while not too confident, considers the outlook quite favorable. Correlation work indicates that the Union's No. 1 Del Rey is more than 200 feet higher on the structure than either No. 1 or No. 2 Recreation of the Ohio.

A. T. Jergins, who is drilling a well within throwing distance of the ocean, may also be in a position to test out the productivity of the shallow zone as he has just landed a string of 10¾-inch preparatory to an early test. This hole was carried down to 3,905 feet, and, with oil sand of promise still present at that depth, it was bridged back to 3,660 feet. Several other wells should be in a position to make a bid for production in the deep zone from which the Ohio Oil Co. is producing 1,420 bbls. per day from No. 1 Recreation and 1,550 bbls. per day from No. 2 Recreation. These projects are the Deuel Petroleum Co.'s No. 1 at 6,111 feet and the Star Petroleum Co.'s No. 1 Venice at 6,275 feet. The Ohio may also be in a position to test out this deep zone as it has two wells below 6,000 feet at

(Continued on Page 130)

INCREASE IN DRILLING ACTIVITY IS EXPECTED IN LOWER MICHIGAN

By Special Correspondent

MUSKEGON, Mich., June 9.—Some indication of the widespread drilling activity in prospect for the entire lower peninsula of Michigan is seen in the issuance of 16 permits for new wells in 10 widely separated sections of the State during the past two weeks.

Not only the proven fields at Muskegon and Mount Pleasant are included among the areas to be tested but also two wildcats areas near the Mount Pleasant Field and six other widely scattered wildcat areas.

New townships and counties in each of which at least one wildcat test will be drilled are as follows: Dundee Township, Monroe County, southeast corner of the State; Lexington Township, Sanilac County, central eastern edge of the State in the Thumb territory; Richmond Township, Osceola County, and Sheridan Township, Mecosta County, in the central part of the State between the Muskegon and Mount Pleasant Fields; Deerfield Township, Lenawee County, south central portion; and Decatur Township, Van Buren County, in the southwestern corner of the lower peninsula.

Only one of the two new permits issued for wells in the Muskegon Field is for a new hole, one being for a well drilled, dry, plugged and abandoned some time ago without a permit.

The new permit is for the Lima Oil Corp.'s No. 8 Louis P. Haight, SW SW, Section 9-10-16, on the Muskegon River Flats, and the other is the Muskegon Oil Corp., Ottawa Petroleum Corp. and the Crude Oil Co. of Michigan's No. 2 J. Torrent estate, SE NW SW, Section 8, 10n-16w, also on the river flats.

(Continued on Page 121)

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well, location—	S-T-R	Depth	Status
Standard, No. 1 Point Conception, Santa Barbara Co.	X- 5-34	4,600	testing
Universal Consd., No. 1 Pt. Conception, Santa Barbara Co.	30- 5-34	2,780	hd. sd. drilling
Prairie Oil Co., No. 1 Lompoc, Santa Barbara Co.	15- 7-35	3,170	hd. sd. drilling
Vaqueros Oil Co., No. 1 Purisima, Santa Barbara Co.	5- 7-33	2,290	sd. sh. drilling
Fields Gasoline Co., No. 1 Santa Maria, Santa Barbara Co.	8- 9-33	3,804	sd. sh. drilling
Barnsdall, No. 1 Gato Ridge, Santa Barbara Co.	9- 8-32	1,877	br. sh. drilling
Duell Pet. Co., No. 1 Santa Ynez, Santa Barbara Co.	9- 7-30	2,820	hd. sd. drilling
Carey, A., No. 1 Goleta, Santa Barbara Co.	1- 4-28	2,880	cleaning out
General Pet., No. 1 Goleta, Santa Barbara Co.	21- 4-28	4,533	shut in
General Pet., No. 2 Goleta, Santa Barbara Co.	21- 4-28	4,350	suspended
General Pet., No. 136 Goleta, Santa Barbara Co.	21- 4-28	1,016	suspended
General Pet., No. 137 Goleta, Santa Barbara Co.	21- 4-28	1,026	suspended
General Pet., No. 138 Goleta, Santa Barbara Co.	21- 4-28	4,600	sd. sh. drilling
General Pet., No. 139 Goleta, Santa Barbara Co.	21- 4-28	1,035	suspended
General Pet., No. 143 Goleta, Santa Barbara Co.	21- 4-28	1,040	suspended
Boles Oil Co., No. 140 Goleta, Santa Barbara Co.	22- 4-28	50	suspended
Ring Oil Co., No. 1 Goleta, Santa Barbara Co.	16- 4-28	412	sd. drilling
U. S. Pet., No. 141 Goleta, Santa Barbara Co.	20- 4-28	1,035	suspended
U. S. Pet., No. 142 Goleta, Santa Barbara Co.	20- 4-28	1,032	suspended
U. S. Pet., No. 143 Goleta, Santa Barbara Co.	20- 4-28	1,019	suspended
Macmillan Pet., No. 134 Goleta, Santa Barbara Co.	21- 4-28	1,046	suspended
Bolsa Chica, No. 191 Goleta, Santa Barbara Co.	24- 4-29	mtl.	building rig
Caldwell Brown, No. 159 Goleta, Santa Barbara Co.	24- 4-29	980	br. sh. drilling
El Camino, No. 149 Goleta Tideland, Santa Barbara Co.	22- 4-28	40	suspended
Frazer & Oliver, No. 173 Capitan, Santa Barbara Co.	4- 4-30	101	suspended
Indian Pet., No. 174 Capitan, Santa Barbara Co.	4- 4-30	1,100	sd. sh. drilling
McLaine, W. L., No. 175 Capitan, Santa Barbara Co.	4- 4-30	30	suspended
Durkee, R. S., No. 176 Capitan, Santa Barbara Co.	4- 4-30	30	suspended
Cunningham, W., No. 177 Capitan, Santa Barbara Co.	4- 4-30	30	suspended
Oakburn Oil Co., No. 168 Capitan, Santa Barbara Co.	4- 4-30	370	suspended
Oakburn Oil Co., No. 169 Capitan, Santa Barbara Co.	4- 4-30	200	suspended
Oakburn Oil Co., No. 170 Capitan, Santa Barbara Co.	4- 4-30	1,302	shut in
Oakburn Oil Co., No. 171 Capitan, Santa Barbara Co.	4- 4-30	300	suspended
Oakburn Oil Co., No. 172 Capitan, Santa Barbara Co.	4- 4-30	325	suspended
Wildcat Oil Co., No. 1 Santa Maria, Santa Barbara Co.	29-10-35	4,531	fishing
Pacific Western, No. 1 Gibraltar, Santa Barbara Co.	14- 5-27	2,345	suspended
Shell, No. 1 Summerland, Santa Barbara Co.	18- 4-25	3,320	br. sh. drilling
Standard, No. 1 Casitas, Santa Barbara Co.	26- 4-25	2,774	abandoning
Continental, Tideland permit No. 121, Santa Barbara Co.	33- 4-25	175	sd. sh. drilling
Continental, Tideland permit No. 122, Santa Barbara Co.	33- 4-25	1,020	suspended
Continental, Tideland permit No. 123, Santa Barbara Co.	33- 4-25	500	sd. sh. drilling
Continental, Tideland permit No. 124, Santa Barbara Co.	33- 4-25	5,100	sd. sh. drilling
Continental, Tideland permit No. 124-A, Santa Barbara Co.	33- 4-25	418	suspended
Continental, Tideland permit No. 125, Santa Barbara Co.	33- 4-25	130	sd. drilling
Continental, Tideland permit No. 126, Santa Barbara Co.	33- 4-25	300	sd. sh. drilling
Continental, Tideland permit No. 127, Santa Barbara Co.	33- 4-25	500	sd. sh. drilling
Continental, Tideland permit No. 128, Santa Barbara Co.	33- 4-25	280	sd. sh. drilling
Continental, Tideland permit No. 129, Santa Barbara Co.	33- 4-25	328	sd. sh. drilling
Exeter Oil Co., Tideland permit No. 163, Santa Barbara Co.	32- 4-25	76	suspended
Getty, Geo. F., No. 120 Carpinteria, Santa Barbara Co.	32- 4-25	1,024	cleaning out
Getty, Geo. F., No. 130 Carpinteria, Santa Barbara Co.	32- 4-25	1,160	sd. sh. drilling
Shell, No. 5 Oxnard, Ventura Co.	14- 2-20	1,100	sd. sh. drilling
Standard, No. 5-9 Saticoy, Ventura Co.	10- 2-22	8,529	redrilling
Prairie Oil & Gas, No. 1 Ventura, Ventura Co.	30- 3-22	5,640	sd. sh. drilling
Bolsa Chica, No. 1-A Temescal, Ventura Co.	4- 4-18	2,343	set pipe
Fennell, E. A., No. 1 Lankershim, Ventura Co.	13- 4-19	1,660	suspended
General Pet., No. 1 Fillmore, Ventura Co.	6- 3-19	2,200	sd. sh. drilling
Associated, No. 1 Rincon Creek, Ventura Co.	19- 4-24	1,970	hd. sd. drilling
Calleguas Synd., No. 1 Camarillo, Ventura Co.	6- 1-20	900	abandoned
Camarillo Synd., No. 1 Camarillo, Ventura Co.	33- 2-20	399	suspended
Pure Oil Co., No. 1 S. P. Canyon, Ventura Co.	15- 4-21	mtl.	building rig
Milham Expltn., No. 9 Buttonwillow, Kern Co.	8-28-23	4,990	suspended
General Pet., No. 1 Buttonwillow, Kern Co.	6-28-23	2,706	suspended
Shell, No. 1 Lerdo, Kern Co.	23-28-26	3,890	sd. sh. drilling
Shell, No. 1 Weed Patch, Kern Co.	29-30-29	4,899	hd. sd. drilling
Shell, No. 1 Edison, Kern Co.	33-29-29	4,900	hd. sd. drilling
Symark Oil Co., No. 1 Edison, Kern Co.	24-29-29	2,130	suspended
Sayre, F. M., No. 1 Edison, Kern Co.	5-30-29	4,220	cleaning out
Helen Pet., No. 1 Jasmine, Kern Co.	23-25-27	2,460	sd. sh. drilling
Shell, No. 1 Semitropic, Kern Co.	17-27-23	2,540	sd. sh. drilling
Moran & DeCamp, No. 1 Mojave, Kern Co.	26-10-14	505	hd. sd. drilling
Bardeen, H. A., No. 1 San Emidio, Kern Co.	18-10-23	960	cleaning out
Bardeen, H. A., No. 2 San Emidio, Kern Co.	10-10-23	2,371	sd. sh. drilling
Stabler, W. W., No. 1 Commanche Pt., Kern Co.	4-11-18	148	sd. drilling
Wrenn, J., No. 1 Antelope Plains, Kern Co.	32-25-17	416	sd. sh. drilling
Richfield, No. 1 Kreyenhagen, Fresno Co.	33-22-16	998	sd. sh. drilling
Currency Pet. Co., No. 1 Jacalitos, Fresno Co.	28-21-14	3,680	suspended
Knudsen, John, No. 1 Jacalitos, Fresno Co.	14-21-14	1,847	suspended
Petroleum Securities, No. 2 Huron, Fresno Co.	28-20-16	7,390	suspended
Fresno Madera Oil Co., No. 1 Clovis, Fresno Co.	18-12-21	4,463	hd. sd. drilling
Western Gulf, No. 1 Penoche Valley, Fresno Co.	26-15-12	5,361	gr. sd. drilling
Panorama Oil Co., Well No. 1, San Luis Obispo Co.	7-31-21	4,019	fishing
Libby Pet., No. 1 Shandon, San Luis Obispo Co.	31-27-15	4,383	suspended
Paso Robles Synd., No. 1 Creston, San Luis Obispo Co.	27-27-11	3,941	cleaning out
Union, No. 1 King City, Monterey Co.	8-22- 8	3,250	suspended
Standard, No. 1 King City, Monterey Co.	23-22- 7	4,450	br. sh. drilling
Pacific Inland Oil Co., No. 1 Parkfield, Monterey Co.	19-23-15	181	suspended
O'Donnell, J. E., No. 1 Dudley Ridge, Kings Co.	7-23-20	4,310	cleaning out
Penn Western, No. 1 Tulare Lake, Kings Co.	24-21-18	1,338	suspended
Wellport Oil Co., No. 1 Devils Den, Kings Co.	9-24-17	3,779	cleaning out
Twin States Oil Co., No. 1 Point Arena, Mendocino Co.	14-12-17	3,380	hd. sd. drilling
Barnhart Trust, No. 1 Oakdale, San Joaquin Co.	3- 2-10	3,354	sd. sh. drilling
Orinda Pet., Well No. 1 Contra Costa Co.	32- 1- 3	587	sd. sh. drilling
White, Roy, No. 1 Pixley, Tulare Co.	8-23-26	4,022	set pipe
Terra Bella Oil Co., No. 1 Porterville, Tulare Co.	35-22-27	900	suspended
Colusa Oil Co., No. 1 Bush, Colusa Co.	31-15- 4	650	sd. drilling

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Union, No. 1 Orchard Dale, Los Angeles Co.	10- 3-11	400	sd. drilling
Clearwater Oil Co., No. 1 Bellflower, Los Angeles Co.	21- 3-12	5,300	br. sh. drilling
Burlingham Pet., No. 1 Compton, Los Angeles Co.	17- 3-13	3,394	suspended
Diller, W., No. 1 Watts, Los Angeles Co.	8- 3-17	6,550	gr. sd. drilling
Crimson Pet., No. 1 Compton, Los Angeles Co.	22- 3-13	130	suspended
Ohio, No. 1 Moneta, Los Angeles Co.	35- 3-14	5,365	hd. sd. drilling
Guajome Oil Co., No. 1 El Nido, Los Angeles Co.	33- 3-14	mtl.	building rig
Cal. Ventura Oil Co., No. 1 Manhattan, Los Angeles Co.	30- 3-14	6,525	suspended
Cal. Ventura Oil Co., No. 1 Hermosa, Los Angeles Co.	31- 3-14	132	sd. drilling
McMahon & McDonald, No. 1 Watts, Los Angeles Co.	12- 3-14	1,140	hd. sd. drilling
Tri-State Oil Co., No. 1 Watts, Los Angeles Co.	12- 3-14	mtl.	building rig
Republic Pet., No. 1 Hawthorne, Los Angeles Co.	10- 3-14	2,168	sd. drilling
Archer Oil Co., No. 1 Watson, Los Angeles Co.	17- 4-13	5,630	suspended
Shell, No. 1 Van Nuys, Los Angeles Co.	19- 2-15	2,900	sd. sh. drilling
Anchor Oil Co., No. 1 Puente, Los Angeles Co.	19- 2-10	4,820	suspended
West Amer. Pet., No. 1 Puente, Los Angeles Co.	14- 2-10	rig	rigging up
Rucker, R. C., No. 1 Puente, Los Angeles Co.	27- 2-10	3,660	suspended
Bardeen Pet., No. 1 Puente, Los Angeles Co.	9- 2-10	616	sd. drilling
Sherman, J. W., No. 1 Puente, Los Angeles Co.	33- 2- 8	850	suspended
Keck & Hall, No. 1 Puente, Los Angeles Co.	32- 2- 8	1,120	shut in
Marcel Pet. Co., No. 1 Puente, Los Angeles Co.	31- 2- 8	2,290	hd. sd. drilling
Los Gatos Oil Co., No. 1 El Monte, Los Angeles Co.	16- 1-11	1,950	suspended
Olympic Corp., No. 1 Calabasas, Los Angeles Co.	18- 1-17	4,728	sd. sh. drilling
Consolidated Oil Co., No. 1 Newhall, Los Angeles Co.	8- 3-16	1,922	br. sh. drilling
Anderson, P. B., No. 1 Hasley Canyon, Los Angeles Co.	1- 3-16	1,260	br. sh. drilling
Pioneer Pet., No. 1 Newhall, Los Angeles Co.	14- 3-16	2,838	suspended
Union, No. 1 Coyote, Sansinena, Los Angeles Co.	30- 2-10	3,650	br. sh. drilling
Tureco Oil Co., No. 1 Whittier, Los Angeles Co.	29- 2-11	3,962	sd. sh. drilling
Western Gulf, No. 1 Brea Canyon, Los Angeles Co.	28- 2- 9	5,100	hd. sd. drilling
Standard, No. 1 Bastanchury, Coyote, Orange Co.	21- 3-10	5,750	br. sh. drilling
Graham & Loftus, No. 1 Coyote, Orange Co.	18- 3- 9	3,960	hd. sd. drilling
Union Oil Co., No. 1 Richfield, Orange Co.	13- 3- 9	4,600	hd. sd. drilling
Simmel, L. G., No. 1 Yorba Linda, Orange Co.	21- 3- 9	1,780	set pipe
Mesa Pet., No. 1 Newport, Orange Co.	21- 6-10	4,910	suspended
Hall, H. L., No. 1 Newport, Orange Co.	20- 6-10	790	suspended
Standard, No. 1 Newport, Orange Co.	26- 6-10	782	sd. drilling
Fidelity Pet. Co., No. 1-A Murrietta, Riverside Co.	23- 7- 3	701	cleaning out
Hemet Pet. Co., No. 1 Ward, Riverside Co.	9- 5- 1	3,560	suspended
Imperial Valley Oil Co., Well No. 1, Imperial Co.	32-11-10	2,980	suspended
McGregor Synd., No. 1 Del Mar, San Diego Co.	17-14- 3	1,265	sd. sh. drilling
Borderland Oil Co., No. 1 Encinitas, San Diego Co.	12-13- 4	2,418	hd. sd. drilling
Borderland Oil Co., No. 1 Point Loma, San Diego Co.	30-16- 3	2,400	gr. sd. drilling
Grey, H. H., No. 1 Redlands, San Bernardino Co.	25- 1- 2	2,525	fishing
Duncan, N. T., No. 1 Mohave, San Bernardino Co.	8- 4- 6	rig	suspended
Girard & Grimes, No. 1 Corona, San Bernardino Co.	8- 2- 8	1,549	suspended

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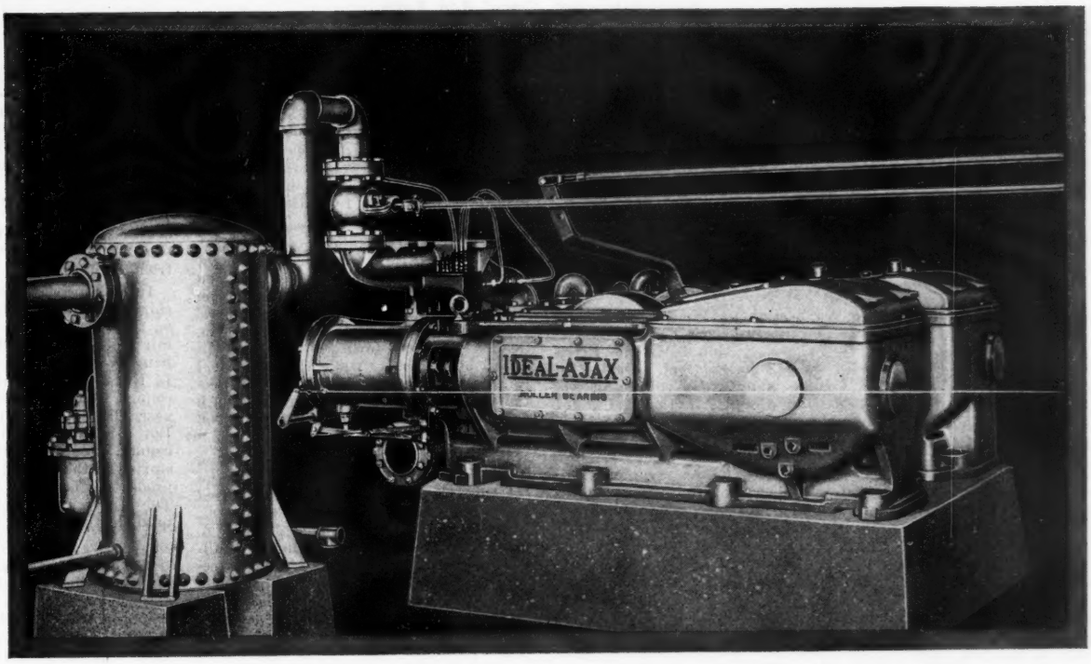

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ROLLER BEARING

STEAM DRILLING ENGINES

Rush for Natural Gas in Old Lima Field

Wildcat in Sandusky County Feature of Week. Good Well in Monroe County, Indiana. Fine Producer in Lawrence County, Illinois

By Whit

Staff Correspondent, Central West Fields

FINDLAY, Ohio, June 9.—Never in the history of the Lima Field has there been such a rush in the hunt for natural gas, more so than for oil, as there is a ready market for the fuel. The outstanding feature of the Lima Field is the completion of a fair-sized gas well far in advance of the producing wells. This wildcat was drilled by M. R. McPheron of Lima, Ohio, on the E. Whitman farm, in Section 31, Ballville Township, Sandusky County, 5 miles south and about 3 miles west of Fremont. The well is said to show a volume of nearly 1,000,000 feet, the top of the Trenton being found at 1,375 feet and drilled 105 feet in the formation to a total depth of 1,480 feet. This well is approximately 1½ miles east of the small hamlet of Maple Shade. This territory was overlooked by the leasers in the early days of the Trenton rock development. Thousands upon thousands of acres have been leased in all directions from the older defined limits. The finding of gas in the town of Norwalk has resulted in wells being under way on town lots, most of them having a volume of from 50,000 to 200,000 feet, but in the Norwalk area the gas is not found in the Trenton which makes a heavy dip to the east of Fremont, and the gas formation in Norwalk appears to be the Niagara lime. The gas in Sandusky County is taken by the Ohio Fuel Gas Co. McPheron has a block of 975 acres in Sandusky County and will keep drilling operations going as long as gas is found.

Just now the operators are paying more attention to development work in Sandusky, Ottawa, Seneca, Wyandot, Hardin and southern Hancock Counties on account of gas and the entire season will see unusual activity.

In Sandusky County, Sandusky Township, F. C. O'Brien's test, 600 feet from the south and east lines of the W. Michaels farm, Section 31, is reported dry. Trenton was topped at 1,346 feet and drilled 100 feet in the lime. W. C. Richards and others are drilling on the Fred Gnepper farm, Section 30, Rice Township, same county.

In Ottawa County, Harris Township, two wells are being drilled for gas, one by the Gibsonburg Oil Co. on the G. Damale farm, Section 23, and the other on the A. Schott farm, Section 22, same township, by the Trenton Oil Co. In Salem Township, same county, between Elmore and Oak Harbor, W. C. Richards and others are drilling No. 3 on the John G. Gnepper farm, Section 19.

In Hardin County, Cessna Township, the Kemrow Co. is drilling two tests, one on the Mary Wedertz 40 acres, Section 14, and No. 1 on the Elmer Kreitzler 120 acres, Section 13. Hummell-Mick and others are starting a test on the Ira T. Price 80 acres, same section. Juniper Oil Co. of Columbus is starting a test on the George Matthews 100 acres, and the Geiger Oil Co. is drilling No. 2 Grant Geiger, Section 13.

CENTRAL OHIO

Fifteen counties in the Central Ohio Field report 25 completions, of which five were dry holes, 10 gas wells and 10 producing wells with an initial production of 718 bbls., while in new work started there were nine new locations and 28 new wells started spudding, a total of 37.

In Ashland County, Jackson Township, the Ohio Fuel Gas Co. has a gas well in No. 1-5,043 on the Charles E. Hines, Section 11. Same company has a gas well in No. 1-5,045 Corwin L. Mason land, Sections 21 and 28, Orange Township. In Perry Township, Stewart and others' No. 3 F. P. Myers, Section 29, is reported at 10 bbls. initial from 727 to 764 feet. Robinson and others have a 10-bbl. initial pumper in No. 1 W. S. Wolf farm, Section 16, Lake Township, from 635 to 675 feet.

In Medina County, Chatham Township, Ohio Fuel Gas Co. has a gas well in No. 1-5,115 George Sutorius, Lot 10.

In Lorain County, Dillon & McFredrick's test on the Thomas Pounds heirs, Lot 93, Eaton Township, was dry from 2,437-43 feet.

In Wayne County, Wooster Township, Bryan and others have a dry hole on the Harry Palmer, Section 9, in the Berea sand from 473 to 494 feet. Ohio Fuel Gas Co. has a light gas volume in No. 1-5,001 Clara Beegler, Section 6, Chester Township.

Only one completion was reported from Holmes County, the Ohio Fuel Gas Co.'s No. 1-3,508 C. C. Felton farm, with an initial of 37 bbls., in Monroe Township.

In Ashtabula County, Sheffield Township, the Ohio Fuel Gas Co.'s No. 1-4,977 George W. Kelsey farm, Section 19, was reported dry with a hole full of water.

In Brown Township, Knox County, the East Ohio Gas Co.'s No. 4 Ellen Scholes, Lot 30, is reported good for 4 bbls. from 634 to 643 feet.

In Coshocton County, Ohio Fuel Gas Co.'s No. 1-5,022 George McCamment farm, Section 16, Perry Township, is reported with an initial production of 145 bbls. from 3,221-74 feet.

Summitt County

Summitt County reported one completion by F. A. Brendall and others on the A. G. Keck, Section 7, Greene Township, which is a light gas well in the Newburg sand from 3,510-18 feet, but may be drilled to test lower formations.

Licking County had a prosperous week so far as oil production is concerned, as the Wittmer Properties, trustee, brought in a 196-bbl. initial producer in No. 2 on the Sam Mossholder farm, Lot 14, from 2,994 to 3,046 feet. Robinson and others' No. 1 on another Sam Mossholder farm, Section 13, same township, produced an initial of 175 bbls., while the Ohio Fuel Gas Co.'s No. 1 A. L. Gruber farm, Section 13, same township, is credited with an initial of 56 bbls. from 2,957 to 3,006 feet.

In Muskingum County, Clay Township, Abe Snider and others' second test on the Eliza A. Beam, Section 3, is reported at 80 bbls. initial from 3,657-3,703 feet. In Washington Township, the Atha Co. has a fair gas well on the Horace Wallworth and others' farm, in the three-quarters section of the township, while in Falls Township the Atha Drilling Co. landed a nice gas well in a second test on the W. H. Atha farm from 3,725-62 feet. Ohio Fuel Gas Co. is reported to have a duster in No. 1-5,017 Charles A. Johnson farm, the third-quarter section, Perry Township, at 4,050 feet.

In Athens County, Ames Township, Fox & Mosure's No. 10 Robert Bean farm, Section 13, pumped 5 bbls. from 251 to 258 feet. Ohio Fuel Co. has a gas well in No. 6-5,124 J. E. Gifford farm, Sections 2 and 3, same township. Same company got a dry hole in No. 1-5,071 J. L. Jeffers, fractional Section 19, Lodi Township. Park Bowser and others' No. 2 on the Fred R. Cooley, Section 26, Alexander Township, is a duster from 1,440-47 feet.

In Tuscarawas County, Oxford Township, the Gordon Oil Co.'s second test on the Sarah E. Ripley, Section 21, is a fair gas well at 3,637 feet. Same company is drilling a second test on the T. L. Euga, Lot 28, Salem Township, same county. Same company has another fair gas well in No. 1 on the George A. Asher, Lot 31, Washington Township, same county. Several new wells are being started in this township, where some good production is found of both oil and gas. The Asher farm well was drilled to a total depth of 3,635 feet.

INDIANA

The most important find in Indiana for some time was the bringing in of a nice gas well by the Petroleum Exploration and Ohio Oil Co. in No. 1 on the T. W. Peterson farm, in Salt Creek Township, Monroe County, about 2,000 feet in advance of the initial well drilled on the John Young farm, and estimated good for 1,000,000 feet. Same company's test on the State Life Insurance Co.'s farm, same township, is reported dry. A location has been made for another test on the M. E. Shirley farm, about 2,500 feet from No. 1 on the same farm. These wells find their gas pay sand around 750 feet, and a rock pressure of around 230 pounds. No arrangements have been made yet to utilize the gas, but the Interstate Co. of Bloomington is much interested in the new gas production with a view of supplying the city if the volume is sufficient. The same companies are drilling No. 1 on the Claud E. Kinser farm, same area.

Petroleum Exploration Co. is reported to be drilling on the L. T. Ratts farm in Morgan County, north of Monroe County, and also made a location on the E. S. Langford, same county.

In Pike County, Logan Township, the Wiser Oil Co.'s test on the Charles Rumble farm, SW, Section 13, pumped 7 bbls. from 1,325-52 feet. H. C. Darby and others' No. 4 in the northeast corner of the G. Stewart, SW, Section 23, was dry at 1,356 feet, and they are drilling No. 1 Noble Miller, Section 26, same township. In Washington Township, C. E. Wohmer's No. 2 Morrison sisters farm, Section 30, was dry, and Harry Risher's No. 1 in the southeast corner of the F. A. Anderson, NW, Section 30, pumped 3 bbls. from 1,118-60 feet. In Clay Township, William Bell and others' No. 3 Fred Linday, Section 31, pumped 10 bbls. initial. Mahutska Oil Co. is drilling No. 5 Ford-Hill farm, same section.

Daugherty & Passmore abandoned No. 1 J. W. and J. H. Kelly, Section 28, Wabash Township, Adams County, and George S. Lacknett and others are drilling No. 2 Baker heirs, Section 3, Jefferson Township. Spencer & Pontius abandoned No. 3 J. R. Pope heirs, Section 26, Bear Creek Township, Jay County.

In the Waterloo Field, Waterloo Township, Monroe County, southwestern Illinois, Trowbridge and others' test on the John Vigt, Section 1, was a duster from 812 to 845 feet. H. M. Backus, an old-time oil scout, is reported drilling on

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BOTH DIVISIONS IN KENTUCKY FIELD HAVE BUSY WEEK IN DEVELOPMENT

By Whit

OWENSBORO, Ky., June 9.—Kentucky, both in the eastern and western divisions of the State, has had a busy week in development work, there being 46 new wells reported completed, of which 30 were producers with an initial production of 1,163 bbls., 12 dry holes and 4 gas wells. The recent completion in the Greenville Field of Muhlenberg County, by Ellis, Young and others on the Eaves-Kennedy farm, which was reported around 150 bbls. initial, following the good well found by the Ohio Oil Co. in a test on the Ranson Lee farm, 3½ miles southeast of Greenville and near the hamlet of Depoy, which was rated about the same size producer as the Eaves-Kennedy well, has brought about more active lease work in the county. The wells should hold their production to a great extent as was the case of the wells in the Lawrence County Field of Illinois, as the sand from which the Greenville wells get their production is the McCloskey formation. The Greenville Field is more expensive operating, but figuratively so far as production of oil or gas is concerned is not prohibitive as to additional cost against the shallow wells of the western part of the State. Outside of the good producers in the Greenville Field, the Stray sand finds in Ohio County make quicker returns by large production for a period, but they do not maintain a large production like the deeper formations. The good well on the Lee farm indicates that the Greenville Field proper may extend in that direction, the well being southwest of the pool proper, opening a wide area that looks encouraging for a larger pool. The wells in the Greenville Pool such as the Bradshere No. 1 and the No. 3 R. O. Kennedy, are reported holding steadily around 100 bbls. each daily. Numerous locations are reported being made between the pool proper and the good well near Depoy and will get an active play during the present season. Besides the two good wells mentioned, the other pumping wells are: Nos. 1, 2 and 3 R. C. Kennedy; B. R. Kennedy's No. 1, Rice Brothers' Nos. 1 and 2; Corley's Nos. 1 and 2; Bradshere's No. 1 and the Lee and Eaves well.

Ohio County Wells

The Stray sand area, known as the Buford Field, is among the most active and productive areas of the western portion of Kentucky, although dry holes are numerous and found in among the best producers.

In the Buford Pool, Hupp, Duff and others' No. 14 J. A. Stewart farm produced 20 bbls. initial, while Nos. 13 and 15, same farm, were dry holes. C. M. Root's No. 10 Vincent Steele farm was dry, while No. 11, same farm, produced 85 bbls. In the same pool and near the Barnett Creek Church Pool, the Rex-Pyramid Oil Co.'s Nos. 18, 19, 20 and 21 Sallie Hoover are reported at 40, 40, 75 and 40 bbls., respectively. Same company's No. 12 M. Chapman was dry.

Cumberland Petroleum Co.'s No. 5 W. H. Hamilton in the Buford Pool is good for 100 bbls., and No. 6 is good for 80 bbls. Same company's No. 2 W. A. Moseley and No. 1 Small Skillman, in the same pool, are showing for producers.

L. C. Young and others' Nos. 3,4 and 5 Homer C. Martin farm are reported with an initial of 80, 100 and 80 bbls., respectively, while No. 1 Stinnett showed 50 bbls., and No. 2, same farm, was dry. Creek Drilling Co. found a dry hole in No. 2 on the Otis Moseley farm, in the Buford Pool.

Louisville Gas & Electric Co.'s No. 8 well, 200 feet from the south line and 1,000 feet from the west line of the R. A. Miller 175 acres, in the Haynesville Pool, made 75 bbls. initial.

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Western Crane County Holding Stage

Most Interesting Wildcat Area in West Texas. Andrews County Sharing Attention. Reagan County's Deep Producers

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., June 9.—Western Crane County continues to be the most interesting wildcat area with the Cranfill Brothers and Gulf Production Co.'s No. 1 Tubb holding the center of the stage, encountering several gas showings at various depths, and finally striking an oil showing this morning from 2,992-95 feet. A gas showing was encountered from 2,900-30 feet estimated at 6,000,000 feet. It is now drilling ahead. This test is in the NE quarter of Section 8, Block B-27, P.S.L.

Andrews County is also coming in for its share of attention since the Deep Rock Oil Co. and other's test in Section 11, Block A-46, P.S.L., looks good for an estimated 500 bbls. of oil per day, according to late reports. It is now standing at a total depth of 4,440 feet while cleaning out to run 2-inch tubing.

The same companies' No. 1 Miles (B. L. King) in Section 22, Block A-46, looks rather discouraging due to its picking up 500 feet of sulphur water from 4,390-95 feet, after having a rainbow show of oil at 4,342 feet. It is now drilling below 4,400 feet. Their No. 1 Mathis in Section 4, east of the discovery well, is drilling rich brown lime at 4,375 feet, and showed a little oil at 4,325 feet.

Fuhrman Petroleum Co.'s No. 1 Ford in the SW Section 16, Block A-43, same county, is still fishing tools which were blown up in the hole last week when the test encountered 1,000,000 feet of gas at 2,955 feet.

Penn Pool Extension

The Texas Company and Cosden Oil Co.'s No. 7 Connell is averaging only around 300 bbls. per day after a 260-quart shot from 3,460-3,592 feet. Total depth is 3,680 feet. Top of the pay is 3,475 feet. This well is in Section 1, Block B-16, and is a mile extension to the Penn Pool, Ector County. The pool is now making over 16,000 bbls. per day.

Penn Oil Co. has made an interesting location in the NE quarter of Section 19, Block 44, 1½ miles due east of the Llano Oil Co.'s dry hole in Section 18, which is about 1 mile east of production in the Penn Pool.

Phillips Petroleum Co.'s (Interstate) No. 1 Whitten in the NW of Section 35, Block LL, T.C.R.R. Survey, northwest of Eldorado, Schleicher County, is drilling ahead at 6,720 feet in black shale with no further showings of oil and no increase registered. It has been bailing from 5 to 10 gallons of 50 gravity oil every 3 to 5 hours from 6,321-37 feet. The gas has also decreased.

Reagan's Deep Producers

The deep producers in the Big Lake Pool, Reagan County, have been especially interesting during the past two or three weeks, and the performance of Group No. 1 Oil Corp.'s No. 2-B University, north of the deep discovery well owned by the same company, is the same as was that of the discovery well when it first came in. This new well has increased to around 1,500 bbls. per day, starting out producing a much smaller amount and gradually climbing every day. It is shut down at a total depth of 8,429 feet. Top of the pay was encountered at 8,131 feet with an increase logged at 8,470 feet.

No. 1-B University, the deep discovery well, has produced a total of 1,375,000 bbls. since it was completed in December, 1928. On January 7, 1930, it reached its production peak of 2,946 bbls. with 26,827,000 feet of gas, and although it has almost duplicated that amount of oil from time to time, it has never quite produced that much on any one day.

Big Lake Oil Co.'s No. 2-C University, which has been producing from a total depth of 8,220 feet, will be deepened. It is producing only around 450 bbls. per day, and deepening may bring it up to the status of No. 1-B.

Big Lake Oil Co.'s No. 1-C University is a record holder in view of the fact it is now standing at a total depth of 8,668 feet, and is flowing around 400 bbls. of oil with 8,500,000 feet of gas per day. Top of the pay of this well is 8,662 feet. Gravity of the oil is 52.8.

Glasscock County Well

Timberlake & Snyder's No. 1 Meek, in the SE of Section 7, Block 34, Township 3s, T.&P. Survey, Glasscock County, bailed only 28 gallons of oil after bailing dry and allowing to stand 16 hours. Total depth (S.L.M.) is 2,965 feet. The oil is coming through water at 2,947-56 feet.

Pure Oil Co. stepped out in the wildcatter's class this week when it staked a location in Section 203, Block 3, T.&P. Survey, in the southwestern part of Pecos County. This test is 7 miles south of a 3,132-foot dry hole which was formerly drilled by J. L. Kennedy in Section 78, same block and survey.

Shell Petroleum Corp.'s and Llano Oil Co.'s No. 8 Scarborough, a southeast extension to the Llano Pool, Section 2, Block 77, has been completed for about a 35-bbl. well at a total depth of 3,391 feet.

Irion County is now becoming a rather active area, with three locations, two staked by Carl Cromwell, who recently brought in the best producer in the county on the Nutt ranch southwest of Mertzon. Cromwell has shipped a total of seven cars of oil from his wells in Irion County to the San Angelo refinery.

Reports from Big Spring and the Howard-Glasscock Pools state the outlet of those pools has been raised materially due to the Big Spring Pipe Line Co. increasing its elected amount 1,000 bbls. from the Ward Oil Co. lease, which is producing from the shallow pay around 2,200 feet. The Shell Pipe Line Co. was formerly running this oil and will now take over 1,000 bbls. of prorated oil in place of the oil which it transferred to the other company. The Humble Pipe Line Co., which elected to take only 3,500 bbls., is running that amount and 700 bbls. of shallow oil also.

The area's outlet is 18,920 bbls. daily from prorated wells. The revision of the outlet and allowance became effective June 7 after the engineering committee of the Howard-Glasscock County Advisory Committee recommended that changes be made. This committee worked in conjunction with Umpire E. E. Andrews and the pipe line company representatives in determining the new outlet.

The Humble curtailed its runs from all properties in the Hurdle district, Upton County, 50 per cent, going into effect June 1.

Taylor County Well

Dunnigan and Shell Petroleum Corp.'s No. 1 French has produced a total of 7,153 bbls. of oil since its discovery and now has a daily average of around 26 bbls. This well is the discovery well of Taylor County, south of the town of Tye. Adams, Ferguson and Hobb's No. 1 Lowe, 2 miles south of this well, has produced a total of 7,040 bbls. and is now producing 35 bbls. daily. A. H. Gibson's No. 1 Cody in the same area has produced a total of 1,350 bbls. of oil and is now producing 35 bbls. per day. Mid-Continent Exploration Co.'s No. 1 Lindsey, another well in this pool, but not yet completed, has produced 800 bbls. of oil, and is estimated good for 75 bbls. per day on the pump. All the owners of these wells have agreed to shut in the wells to 10 bbls. each per day.

WEST TEXAS PRODUCTION
Week ending June 7

County—	Wells	Prod.
Andrews	1	159
Crane	345	33,586
Crockett	47	1,745
Ector	32	15,745
Fisher	7	1,120
Garza	5	51
Glasscock-New Pool	508	34,925
Irion	2	111
Jones	72	1,331
Loving	21	2,235
Mitchell	146	2,343
Pecos	460	118,305
Reagan	256	17,480
Runnels	3	18
Scurry	5	15
Taylor	2	92
Upton	250	8,555
Ward	25	2,105
Winkler	603	69,705
Total this week	2,791	309,626
Total last week	2,780	308,672
Difference	11	954

Shipments Through Trunk Lines

Company and location—	Bbls.
Atlantic, Houston	27,500
Gulf Prod. Co., Ranger	42,364
Humble Oil & Ref. Co., San Angelo	33,873
Humble Oil & Ref. Co., (Station A)	53,157
Illinois, Del Rio	32,486
Magnolia Petroleum Co., Dobson	22,611
Pasotex, El Paso	11,023
Shell Pet. Corp., Healdton	41,762
Shell Pet. Corp., Houston	26,022
Texas Oil Co., Houston	14,480
Total	305,278

Shipments to West Texas Refineries

Amarillo Ref. Co., Pyote	1,376
Big Spring Ref. Co., Big Spring	463
Burford Ref. Co., Pecos	5,531
Bluebonnett Ref. Co., Wickett	1,905
Cosden Ref. Co., Big Spring	8,843
Col Tex Ref. Co., Colorado	6,741
Great Western Ref. Co., Big Spring	3,914
Humble Oil & Ref. Co., McCamey	9,880
Richardson Ref. Co., Big Spring	None
Tonkawa Ref. Co., Pyote	1,747
Wickett Ref. Co., Wickett	170
Total	40,570

Tank Car Shipments

Landreth Prod. Co. from Crossett	350
Thomas & Brann from Grant City	250
Orient from McCamey	90
Southern Crude from Wickett	21,288
Total	21,978
Total daily average distribution	367,826
Total daily average production (including Lea County, N. Mex.)	323,783
Daily average from storage	46,057

WILDCAT OPERATIONS IN WEST TEXAS

Week Ended June 9

Company, well, farm, name, section and block—	Remarks—
ANDREWS COUNTY	
Deep Rock Oil Co. et al's No. 1 Mathis, 900 ft. from S and W. Sec. 4, Blk. A-46, Public School Land	Drlg. 4,261 ft.; est. 1,500,000 ft. gas.
Deep Rock Oil Co.'s No. 1 Miles, 990 ft. S. 1,650 ft. E of NW cor., Sec. 22, Blk. A-46, School Land	Drlg. 4,295 ft.
Fuhrman Pet. Corp.'s No. 1 Ford, 440 ft. from S and 2,200 ft. from W of Sec. 16, Blk. A-43, Public School Land	Shut down 2,955 ft.; fishing for tools.
Deep Rock Oil Co. et al's No. 1 King, 330 ft. from N and 2,310 ft. from E, Sec. 11, Blk. A-46	Top pay 4,335 ft.; swabbed 476 bbls.; drlg. 4,435 ft.
R. R. Penn's No. 1 Wilson, C, Sec. 20, Blk. A-37, School Blk.	Drlg. 1,500 ft.
BREWSTER COUNTY	
Brewster Oil Co.'s No. 1 Fee, 2,640 ft. S and 2,598 ft. E of NW cor., Sec. 45, Blk. G-15, G.C.&S.F. Sur.	Shut down 1,935 ft.
E. L. Chapman's No. 1 Skinner, C SW SE, Sec. 100, Blk. 2, G.C.&S.F. Sur.	Shut down 1,250 ft.; hole full water 1,135-85 ft.
Trans-Pecos Oil & Gas Co.'s No. 1 Jones, 920 ft. from N and 2,500 ft. from E of Sec. 18, Blk. G-15, G.C.& S.F.R.R. Sur.	Show oil 1,830 ft.; shut down 2,345 ft.; casing cemented.
Van McPhail's No. 1 McIntyre, SE cor., Sec. 59, Blk. 352, 7 mi. S of Alpine	Shut down 1,750 ft.
COKE COUNTY	
Arkansas Fuel Oil Co.'s No. 1 Stepp, 1,020 ft. NE, 2,340 ft. W of SE cor., Sec. 35, Blk. 1-A, H.&T.C. Sur.	Drlg. 2,560 ft.
Lipan Oil Co.'s No. 1 E. C. Rawlings, Sec. 390, Blk. 1-A, H.&T.C. Sur., elev. 2,750 ft.	Shut down 3,278 ft.; underreaming 4¾-in. casing.
CONCHO COUNTY	
Beesley et al's No. 1 S. Waring Est., 1,320 ft. from S and E of A. T. Robinson Sur., Abst. 2,120	Machine.
Duffy et al's No. 1 Callan, 1,520 ft. N and 1,120 ft. W of SE cor., Sec. 21, Blk. 10, H.&T.C.R.R. Sur.	Spudded and shut down.
Turner et al's No. 1 Borsig, 150 ft. from S of NE cor., G. Emmig Sur. 130, 6 mi. W of Paint Rock	Shut down 735 ft.
CRANE COUNTY	
Cranfill Bros. and Gulf's No. 1 J. B. Tubb, 2,310 ft. from N and 330 ft. from E of Sec. 8, Blk. B-27, Public School Land	Total depth 2,885 ft.; tested 3,519,000 ft. gas at 2,868 ft.
C. C. Duffey's No. 1 Cowden Bros., 580 ft. NE and 1,333 ft. SE of W cor., Sec. 31, Blk. 2, H.&T.C. Sur.	Drlg. 910 ft.
CROCKETT COUNTY	
Doleman & Moore's No. 1 Perner, 3,135 ft. from N and 1,485 ft. from E of Sec. 36, Blk. 2, I.&G.N. Sur.	Spudded and shut down.
Lewis & Daniels' No. 1 Pecos River bed, 19 yds. S and 37° E of NW cor., Sec. 33, Blk. 1, I.&G.N. Sur.	Shut down 1,407 ft.
Magnolia Pet. Co.'s No. 1 Hoover, 2,310 ft. from N and 330 ft. from E of Sec. 12, Blk. 1, G.C.&S.F.R.R. Sur.	Drlg. 4,375 ft.
G. Schaul's No. 1 Bouscour Est., 330 ft. N and 2,310 ft. from W of Sec. 27, Blk. HH, G.C.&S.F. Sur.	Rigging up.
Trans-Texas Oil Co.'s No. 2 Shannon, 983 ft. from S and 1,873 ft. from E line of Sec. 42, T.C.R.R. Sur.	Top salt 1,235 ft.; top pay 2,534 ft.; total depth 2,578 ft.; flowing 35 bbls. per day.
CULBERSON COUNTY	
Grisham & Hunter Corp.'s No. 1 Garren, 2,310 ft. from S and 330 ft. from E of Sec. 18, Blk. 89, P.S.L. Sur.	Shut down 2,514 ft.

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COMPLETIONS IN WEST TEXAS
Week ending June 7

Ector County

Cosden Oil Co.'s No. 2 University, top pay 3,635 feet; initial production 650 bbls.; total depth 3,705 feet.

Crane County

C. C. Duffy and others' No. 9 Cowden Brothers & Co., top pay 2,330 feet; initial production of 50 bbls. in five hours; total depth 2,537 feet.

Loving County

California Co.'s No. 1 Reagan & McEvain, total depth 4,411 feet; plugged

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Gray and Carson Production Is Down

Flush Producers Fall Off and New Completions Fail to Offset Loss. Test of Pipe Line Law Expected. Graham Pool Disappointments

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., June 9.—Gray and Carson Counties both slumped off in production this week, bringing the Panhandle district's production down about 2,000 bbls. to 110,898 bbls. per day, due to many flush producers falling off and the newly completed wells not being able to make up the difference. Ten producers were completed in Gray County, the largest number to be completed in the county for one week in a long time, but none was exceptionally large, the best, Humble Oil & Refining Co.'s No. 2 Combs & Worley, having an initial production of 1,860 bbls. at a total depth of 2,862 feet. The second largest was Wilcox-Pampa Oil Co.'s No. 12 Combs & Worley which had an initial production of 1,383 bbls. at a total depth of 2,913 feet. The smallest producer of the week was The Texas Company's No. 4 Shaw which came in for only 15 bbls. of oil and 5,000,000 feet of gas at a total depth of 2,713 feet.

Most of the new locations staked in Gray County were in the new area recently opened by the Cockrell-McIlroy Oil Co., southwest of Pampa on the Castleberry ranch, and this area is the hottest one in the county at the present time. Considerable leasing and royalty trading has been taking place since the discovery of the Castleberry well. A new refinery owned by the Navajo Refining Co. will soon be completed near this pool, and will be operated on crude from the Cockrell-McIlroy and offset leases. The plant is to have a capacity of 5,000 bbls. per day.

Carson County Test

Cockrell-McIlroy Oil Co.'s No. 1 Simms, 330 feet from the south and east of the east 140 acres of the north 160 acres of the south 320 acres of Section 11, Block 5, I.&G.N. Survey, Carson County, northwest of the discovery well of the Empire Gas & Fuel Co. in Section 13, is shut down at 3,291 feet after topping a pay at 3,275 feet. It swabbed 35 bbls. of oil and swabbed dry, later filling up 1,000 feet with oil. This is the first test in the area with an oil showing since the completion and opening of the area with a 1,286-bbl. well, and this second test does not appear as favorable as might be expected. Total depth of the discovery well is 3,232 feet.

The Lone Star Gas Co. is buying more gas holdings in northern Moore, Gray, Carson and Hutchinson Counties in the Panhandle district, fortifying its holdings that it already has in this area, and preparing for future needs. This company in conjunction with two other large utility corporations, is building a 24-inch gas line from this district to Lincoln, Neb., and cities in Iowa, consequently is buying more leases for gas reserves to supply the new line and its demands.

Wichita Falls District

Producers in the Wichita Falls district were exercised this week when the Humble Oil & Refining Co. announced it would purchase no more oil in Wichita, Archer and Wilbarger Counties, saying they did not need any more crude of the grade found in these counties, and that it would not buy and store it. Withdrawal as a purchaser goes into effect July 1. Humble is now purchasing around 5,100 bbls. per day from the three counties which produce a total of 67,425 bbls. per day. Average prices of the oil range from around $1.35 to $1.40 per barrel, compared with the 80-cent crude of West Texas and New Mexico where the Humble company is a heavy buyer.

It appears, on the surface, that this may lead to a test of the new Texas pipe line law which is to go into effect June 20, and which was formulated by representatives of the Independent Petroleum Association of Texas to prevent discrimination in purchases of oil from associated or affiliated interests and oil from other producers. Although pipe line companies may be bound by this law to run oil, it is believed they cannot be forced to buy the oil, and it is this point which the pipe line companies feel they can successfully attack in courts.

Pipe line companies serving offset leases served by the Humble company in the three counties have already felt the effect.

Graham Pool

In southern Young County in the Graham Pool, Fultz, Kay and Deats' No. 1 Ragland, 330 feet from the E and 150 feet from the S of a 91-acre lease in the J. W. Manning Survey, north of the Nash and Windfohr phenomenal well on the McCloud farm, is shut down at a total depth of 3,740 feet with no showing of oil or gas, and practically proves that direction failing in production from this deep pay.

Panhandle Refining Co. and T. B. Slick's No. 1 Morrison, located 200 feet from the N and 150 feet from the W of a 40-acre tract in the Hammond Survey, a south offset to the Nash and Windfohr well, is drilling at 3,890 feet with no showing of oil and gas from the 3,700-foot pay, in which horizon the discovery pay was found.

These failures are making the area look rather disappointing from a standpoint of production from the 3,700-foot pay, proving that such wells as the Nash and Windfohr well are not to be found generally in this area. It came in for an initial production of a little better than 1,000 bbls. per hour. It was purely a freak well for this pool, but had its effect on leasing and drilling activities which have no doubt reached their peak for some time to come.

In connection with the Graham Pool in Young County, it should be noted that another offset well to the Nash and Windfohr discovery, Pitzer and West's No. 1 Callahan, picked up a hole full of water from sandy lime at 3,923-25 feet and proves it another failure for this pool.

Overall Pool

Meredith and Benton's No. 2 McCullock, south of the town of Coleman, and approximately 3 mile seast of the Overall Pool in Coleman County, is making 3 bbls. of oil an hour through tubing, 7 per cent water. Total depth is 2,101 feet. A gas sand was logged from 2,085-90 feet and the oil sand from 2,090-2,101 feet. This is the second well these operators have drilled in this area, the first one being a dry hole.

The Overall Pool produced 547 bbls. of oil from 18 wells on June 4.

The Midwest Exploration Co. sold to Virginia M. Murray of Cisco and H. D. Lowrance of Cross Plains its 80-acre Dibrell lease in the J. W. Hicks Survey No. 265, Coleman County. This lease has 3 producing wells with a daily average production of 8 bbls. It was purchased mainly for its salvage value.

The George Pool in Brown County produced 430 bbls. from 51 wells on June 5.

The Deep Rock Oil Co. and Faith Oil Corp.'s No. 1 Bugg in the Harriet Nail Survey, southwest of Gainesville in Cooke County, was completed for an initial production of 8 bbls. Total depth of the well is 1,357 feet. Broken oil sand was logged from 1,308-35 feet and a lime from 1,358-1,457. Although this is not a large well it will probably have an encouraging effect on companies and operators who are holding leases in this newly opened area, and drilling activities can be expected to increase.

NORTH TEXAS PRODUCTION

Week Ending June 7

Panhandle District—	
Carson County	8,890
Hutchinson County	23,406
Gray County	77,400
Moore County	375
Potter County	12
Wheeler County	815
Total production this week	110,898
Total production last week	112,826
Difference	1,928
Wichita Falls District—	
Archer County	19,185
Baylor County	1,255
Clay County	715
Cooke County	3,695
Foard County	200
Jack County	3,722
Haskell County	44
Montague County	6,435
Throckmorton County	1,175
Wilbarger County	23,262
Young County	19,727
Wichita County	24,981
Total production this week	104,396
Total production last week	105,033
Difference	637
Ranger District—	
Brown County	6,746
Callahan County	3,905
Coleman County	4,315
Comanche County	370
Palo Pinto County	625
Eastland County	5,460
Shackelford County	6,500
Stephens County	6,030
Total production this week	33,951
Total production last week	34,234
Difference	283
Grand total production this week	249,245
Grand total production last week	252,093
Difference	2,848

WILDCAT OPERATIONS IN TEXAS PANHANDLE

Week Ending June 9
CARSON COUNTY

Company, well, farm, name, section and block—	Remarks—
Danciger O. & R. Co.'s No. 1 Block, 330 ft. N and E lines, Sec. 112, Blk. 4, I.&G.N. Sur.	S.D. 2,985 ft.
Danciger O. & R. Co.'s No. 1 Byrum, 990 ft. N, 330 ft. W, SW, Sec. 188, Blk. 3, H.&G.N. Sur.	S.D. 3,104 ft.
Cockrell-McIlroy Oil Co.'s No. 1 Eller, 330 ft. S and W, NE cor. NW, Sec. 200, Blk. 3, I.&G.N. Sur.	T.D. 3,615 ft.; P.B. for gas.
Cockrell-McIlroy Oil Co.'s No. 1 Simms, 330 ft. S and E, E 140 ac., N 160 ac., S 320 ac., Sec. 11, Blk. 7, I.&G.N. Sur.	43,000,000 ft. gas 3,110-35 ft.; S.D. 3,291 ft.; T.P. 3,275 ft.; 1,000 ft. oil in hole, swabbed 35 bbls. and swabbed dry.
Empire G. & F. Co.'s No. 1 Archer-B, 330 ft. N and E, SW cor. SW, Sec. 139, Blk. 3, I.&G.N.R.R. Sur.	Location.
Empire G. & F. Co.'s No. 2 Fields, 990 ft. N and W, Sec. 13, Blk. 4, I.&G.N. Sur.	S.D. 2,502 ft.
Gibson Oil Corp.'s No. 1 Moore, 990 ft. N, 330 ft. E, N½, SE, Sec. 20, Blk. 7, I.&G.N. Sur.	S.D. 350 ft.
Phillips Pet. Co.'s No. 1 Pickens, 990 ft. E line, 230 ft. N line, NE cor., Sec. 31, Blk. 7, I.&G.N.R.R. Sur.	Drlg. 3,250 ft.
Reiger & Steckoll's No. 1 Martin, 330 ft. N and W, SW, Sec. 90, Blk. 7, I.&G.N. Sur.	Rigging up.
Shamrock O. & G. Co.'s No. 1 Thompson, 330 ft. S and W lines, E 80 ac., NE, Sec. 5, Blk. 7, I.&G.N. Sur.	17,000,000 ft. gas 2,755 ft.; S.D. 3,165 ft.
Shell Pet. Corp.'s No. 1 Percival, 330 ft. N and E, SE, Sec. 199, Blk. 3, I.&G.N. Sur.	Fishing 3,080 ft.
Suloch Oil Co.'s No. 1 Bost, 990 ft. S, 330 ft. E, SW, Sec. 1, Blk. S.&F.	T.D. 2,875 ft.; U.R. 6-in. csg.
Sweeney et al's No. 1 Locke, 164 ft. N and W, 40-ac. tr. along R.R. in Sec. 57, Blk. 7, I.&G.N. Sur.	S.D. 535 ft.
Texas Interstate P. L. Co.'s No. 1 Burnett, 1,320 ft. N, 660 ft. W, of W 480 ac., Sec. 99, Blk. 5, I.&G.N. Sur.	Drlg. 2,020 ft.
Texas Interstate P. L. Co.'s No. 1 Sanford, C NW NE, Sec. 4, Blk. 3, A.B.&M. Sur.	T.D. 3,130 ft.; P.B. for gas well; 5,000,000 ft. gas 2,560 ft.; S.O. 2,937 ft.

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RANGER COMPLETIONS

Week Ending June 7

Callahan County

Breeman and others' No. 1 Seale estate was dry and abandoned at a total depth of 1,250 feet. Lewis Production Co.'s No. 2 Alexander was dry and abandoned at a total depth of 1,215 feet. R. C. McCarter's No. 1 Long was dry and abandoned at a total depth of 1,788 feet. Star Drilling Co.'s No. 1 Finley was dry and abandoned at a total depth of 2,112 feet. Wakefield & Curry's No. 1 McDonnell was dry and abandoned at a total depth of 658 feet.

Coleman County

Coleman Gas & Oil Co.'s No. 1 Holt estate was completed with a total depth of 2,385 feet, and was plugged back to 2,300 feet, had 500,000 feet of gas from 2,244 feet, with rock pressure of 1,000 pounds. Fuhrman Petroleum Co.'s No. 1 Fleming was dry and abandoned at a total depth of 1,275 feet. Joines & Engle's No. 1 Garrett was dry and abandoned at a total depth of 1,372 feet. Show of gas and oil at 998-1,011 feet, show of gas 1,281-83 feet and at 1,328-35 feet. Lloyd Oil Corp.'s No. 11 Bartholomew was completed with a total depth of 1,454 feet, show of oil and gas at 1,443-50 feet, came in for an initial production of 150 bbls. Tidal Oil Co.'s No. 5 Stewardson was completed with a total depth of 1,448 feet, but was plugged back to 1,446 feet, had oil sand at 1,424-28 feet, and was completed with an initial production of 62 bbls. Wilmott and others' No. 1 Kingsberry was dry and abandoned at a total depth of 1,492 feet.

Comanche County

Anderson and others' No. 1 Guinn was completed with a total depth of 2,811 feet with an initial production of 1,712,000 feet of gas, with established 4 bbls. of oil.

Eastland County

Outlaw & Prairie Oil & Gas' No. 1 Dillon was dry and abandoned at a total depth of 1,491 feet. Texas Pacific Coal & Oil Co.'s No. 1 Parrack was completed with a total depth of 3,695 feet, shot 30 quarts in Ranger sand at 3,660-80 feet with no results, shot 120 quarts in black lime from 3,500-35 feet, initial production 124 bbls.

Erath County

Lone Star Oil Co.'s No. 3 Cage was dry and abandoned at a total depth of 4,001 feet.

Shackelford County

Carter Development Co.'s No. 1-50 Nail was dry and abandoned at a total depth of 1,285 feet. T. James' No. 1 Morris & Buie topped the pay at 1,584 feet, came in for an initial production of 40 bbls. and was completed with a total depth of 1,600 feet. State Oil Corp.'s No. 1-133 Nail had the oil sand at 1,459-60 feet, completed with an initial production

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Admixture of Rotary Drilling Mud

Utmost Effectiveness Lies in Proper Choice and Proportioning of Suitable Materials to Make Up Deficiency in Quality

By C. P. Parsons
Halliburton Oil Well Cementing Co., Duncan, Okla.*

Some natural muds have been very effective in rotary drilling without treatment or use of admixtures and will continue to be so, but every operator has had occasions when deficiency in a natural mud was so obviously bothersome that some treatment or admixture was necessary.

Utmost effectiveness in the use of admixtures and chemical reagents lies in the proper choice and proportioning of suitable materials to make up the difference in quality between the natural mud and what would be considered the ideal drilling fluid for conditions met in a well.

This immediately raises the question, "What is an ideal drilling fluid?"

At the present time, a final answer, specifically defined and capable of universal application, is difficult indeed but in order to assist individual interpretation and to help in definite mud problems, it will be attempted in this paper to present a number of pertinent facts about mud and admixtures.

Unless admixtures are thoroughly understood and proportioned properly, they very often do the opposite to what is intended or they create some other deficiency. For instance, with a natural mud that lacks colloidal quality, if it is excessively treated with an admixture that relies on the water content of the fluid for its action, there is a possibility that the weight might be lowered excessively; and if the fluid is treated to increase colloidal quality by the use of a reagent that relies on chemical reaction with the basic minerals in the natural mud, the use of too much might kill what colloidal quality the natural mud may have.

If we consider the use of admixtures only as an attempt to improve a mud just beyond the point where its deficiency is obviously bothersome, then it is not necessary to think seriously of an ideal fluid. The practical value of such thought would be to define a fluid that would not only eliminate the obvious conditions, but would assist in many other ways to make faster and straighter hole, a fluid that will be easier on pumps and other parts of the circulating system and will afford protection with a safety factor at all times.

Expensive blow-outs still occur, even in fields where operators apparently spare no expense to drill safely and conservatively; shutdowns are still numerous due to excessive wear on pumps; drill pipe is still occasionally stuck when mud settles out rapidly and many other expensive shutdowns occur in which mud deficiencies are closely related to the cause. In deep drilling areas, these expenses count up rapidly and it is primarily for this deep drilling reason that considerable interest has recently been revived in rotary mud.

It has been reported that mud was used with rotary equipment for drilling water wells in France 60 years ago. Since that time, there have been several periods like the present, in which unusual interest in mud fluids was aroused. Each period is reflected in the writings of the time and has contributed some practical and useful information on the subject.

Functions of Drilling Fluid

The following is an attempt to describe some functions, besides the usual ones, that may be expected of an ideal rotary drilling fluid:

For drilling in areas of normal pressure, an ideal rotary drilling fluid is one that will have sufficient viscosity and colloidal quality which, when combined with the force of velocity, will immediately carry all cuttings away from the bit up to the surface at the same velocity as the mud stream itself.

That is free from any abrasive content when it enters the pump suction.

That will not settle more than 2 per cent in 24 hours.

That will, upon the stopping of any mechanical agitation or disturbance when withdrawing the drill stem, tend to gel sufficiently to hold all the cuttings in the same place as they were when circulation was stopped, then when again disturbed by running the drill stem, it will return to its original liquid state, having prevented the cuttings from settling when the drill stem is out of the hole.

That will be white in color, so that the amount of contamination will be easily indicated.

That will be noncorrosive.

That will have a very low freezing point, so that it will not freeze in its position behind the casing above the cement in a producing well, if the expansion of gas from high reservoir pressure to low delivery pressures causes a drop in temperature sufficient to freeze and expand the fluid behind the casing and endanger the casing.

That will not lose any of its colloidal quality when it comes in contact with briny solutions.

To try to obtain all of the above qualities and the other more obvious ones might seem like chasing the moon, but a search along those lines has revealed that though no natural clay has been found to fill all of the above requirements, there are scattered materials that could be produced very cheaply and there is sufficient scattered knowledge of chemical and physical treatments that when gathered together could produce an inexpensive processed drilling fluid to meet most, if not all, of the above qualities.

In real deep drilling of the future, it is not unreasonable to assume that these loose ends will have long since been gathered and a hole will be started and finished with an inexpensive processed drilling fluid rather than with a deficient natural mud. There will be automatic devices for instantaneously and continuously recording weight, viscosity and other important factors.

However, at this stage of the game, natural drilling mud is either good or bad and the practice is to eliminate obvious deficiencies either by simple physical treatments such as screening and aerating or by treatment with an admixture or some chemical reagent.

Admixtures and reagents at present have three principal uses: First, as a mud body; second, as a colloidal; third, as a weighting material. Other uses are as a gas liberator and as a lubricant. They will be discussed in their turn.

Rotary Mud Bodies

An ideal mud body admixture is one that will not require more than three times its weight in water to make a 10-pound fluid, and which will meet all the conditions already mentioned in this paper.

Very often, a well might produce a good mud, while drilling, but is unable to produce it in sufficient quantities. Mud must be hauled or pumped from some other source or an inexpensive processed mud body may be used.

Rotary mud bodies are usually of some form of clay. Most clays are composed chiefly of silica and alumina. Physically, most clays are soft and unconsolidated and are made up of very fine grains, although some varieties are quite hard. Most clays are plastic when mixed with water. Most flinty clays and hard kaolins have little or no plasticity. In color, clays vary from white through yellow, brown and red to black, depending on the impurities present. Yellow and red clays usually owe their color to iron compounds; brown and black usually to organic or carbonaceous material. Most clays contain quartz sand and sometimes mica.

A survey of many natural clays revealed very few that are really desirable in their natural form, though pulverized for rotary drilling fluid bodies. However, inexpensive clays have been found that, when in proper combination, give evidence of making generous approach to the ideal. Experimentation is now being carried on.

Quite often a drilling well does not begin to make natural mud until considerable hole is made. In a certain gas field in the Mid-Continent, the first 700 feet of formations are sands. It takes several days to "soak" the pits with water and unless mud is hauled or piped, drilling proceeds with considerable difficulty because the hole consumes much water. The difficulty with the mud hauled or piped from pits at completed wells in this field is that the mud is very high in sand content. Drilling progress under such conditions would benefit considerably from the availability of a processed mud body, the price of which being low and the advantages high, making hauling or piping poor mud uninteresting.

Until the time such a processed mud body appears on the market, there are some good natural clays available. One of them is a reddish clay found in West Texas. This clay is high in colloidal quality, has proper weight for normal pressures, is low in abrasive content, running between 2 and 5 per cent in a few places and considerably higher in others. Its viscosity is such that if thickened considerably to make a heavy mud, it would not flow easily or drop cuttings readily. When it is desired to increase the weight of this mud an admixture could be added to increase the weight without increasing the viscosity, as described later. In some places this clay has a shallow overburden and is lowest in sand content when taken from a level part of the bed. On the slopes the sand content increases.

A clay of this kind breaks down easily in water when ground to 64 mesh or finer and is rapidly mixed by means of a jet mixer. When in coarse particles, steaming will accelerate mixing.

The following is a list and description of some clays and other minerals that are being tried out in various forms under various trade names:

Bauxite

A mineral which is an important ore of the metal aluminum; about 75 per cent of the production in the United States is for metallic aluminum. The largest producers are: Arkansas, Georgia and Alabama. Bauxite is a noncrystalline, earthy mineral, massive or in grains. Its color is white, gray, yellow or red. It derives its name from Baux, France. American bauxite has usually a round, pebble-like structure, and the commercial grades should have at least 52 per cent of silica and iron together. So-called bauxitic clay is a clay found in close contact with a bauxite stratum.

Diatomaceous earth, or diatomite, is the name of a fine silica made up of the silicious skeleton of tiny aquatic plants called diatoms. Most of the miscropic skeletons are hollow so that the material is very light in weight. It is amorphous, having no crystal structure. It has been used as a concrete admix.

Kaolin—A very pure form of aluminum silicate clay with no iron. It is a decomposition product of granite and feldspar, and its usual impurities are quartz sand, feldspar and mica, which can be washed out with water. Kaolin is usually white. It is insoluble in water. Kaolin usually occurs in clay-like masses, with a specific gravity of 2.6 to 2.63, and hardness of 2 to 2.5 as measured by the Moh scale.

Shale—A rock formed by mud or clay consolidated under pressure. It is fine-grained and has a laminated structure, and is largely composed of silica and alumina with various impurities, often colored by oxides of iron. Unlike sandstones, shales have little porosity. Slate is another form of shale.

Silica—A mineral which is the most common of all materials, and in the combined and uncombined states is estimated to form 60 per cent of the earth's crust. Many sands, clays and rocks are largely composed of silica. When pure, silica is colorless to white. It is either crystallized or amorphous. Crystallized silica in the form of quartz has a hardness of 7 on the Moh scale, and a specific gravity of 2.65.

Talc—A soft, friable mineral, oily and yielding to the touch. It is a hydrated magnesium silicate. The color is white, gray, green, brown or red. Talc has a hardness of 1, and a specific gravity of 2.8. It has a pearly to greasy luster. The mineral occurs in the Appalachian region from Vermont to Georgia. Talc does not mix readily with water.

Tripoli is the name of a whitish, finely granular, porous, silicious rock probably derived from the weathering or alteration of chert or flint or the residue from the decay of silicious limestones from which the calcium carbonate has been leached out. In some deposits tripoli is soft enough to be crushed in the hand. It is sometimes called soft silica. It is not amorphous, as often considered, having a microcrystalline structure. It mixes readily with water, but, although ground fine, and if untreated, it lacks sufficient colloidal quality when mixed with water to make a drilling fluid. In some of the above descriptions, mention was made of hardness of some of the materials. This hardness is according to the Moh hardness scale for abrasives, measurements being taken by scratch comparison, talc being taken as 1 and the diamond as 10 on the scale.

SOME MINERALS ON THE MOH SCALE OF HARDNESS

Mineral—	Hardness No.	Mineral—	Hardness No.
Talc	1	Crystallized silica	7
Kaolin	2 to 2.5	Topaz	8
Barite	3 to 3.5	Corundum	9
Fluorite	4	Diamond	10
Hematite	5.5 to 6.5		

Colloidal Admixtures and Reagents

The natural mud found in one particular high-pressure area has insufficient weight, gas cuts easily and settles too quickly. At one well in that area, after drilling to 5,000 feet and nearing production the rock bit became stuck in a limestone but circulation was free. Circulation was maintained for several days while attempts were made to free the bit but the pumps went down for several hours. While they were down, the mud settled sufficiently to prevent the pumps from getting circulation when ready to start. Thus, after spending $150,000, the job was jeopardized by deficiency in colloidal quality of the mud which easily could have been prevented by maintenance of proper colloidal quality by using an inexpensive colloidal admixture. Fortunately high-pressure pumps were soon available and broke circulation.

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*Presentation before the meeting of the Mid-Continent District of the American Petroleum Institute, Division of Production, Tulsa.

Pipe Line Construction News

McFADYEN-DENNING IDAHO PERMIT UPHELD

CASPER, Wyo., June 9—The public utilities commission of Idaho has refused to recede from its order authorizing the construction and operation of natural gas transmission and distribution lines in southeastern Idaho, serving Pocatello and other places with gas from Wyoming.

The commission denied a petition for rehearing filed by the Public Utilities Consolidated Corp., which supplies manufactured gas in Pocatello and which opposed the entry of a competitor into the field.

A certificate of convenience and necessity had been issued by the commission to John McFadyen and L. B. Denning to construct, operate and maintain transmission lines, distributing plants and systems for the supplying of natural gas for light, heat and other purposes in the counties of Franklin, Oneida and Bannock and to the cities of Preston, Malad and Pocatello and the towns of Downey, McCammon and Franklin.

In addition to the protests of the Pocatello company, objections were made to the issuance of a certificate by the Norton Gas & Oil Co. and by Teeters & Thorsen, both of whom, at the time of the hearing, were conducting drilling operations for natural gas in the vicinity of Pocatello for the purpose of testing whether natural gas could be obtained in commercial qquantities, it was stated in the commission's order.

These protestants, the order continued, requested "a reasonable length of time" before the issuance of any certificate.

The commission is of the opinion, and finds, that a reasonable time has elapsed before taking action, and that any further delay would be unfair to the applicants. No report or word has been sent to this commission that natural gas in commercial quantities had been obtained by any of the protestants.

The Public Utilities Consolidated Corp., which was incorporated in Arizona, the commission stated, had offered to purchase natural gas from the applicants at wholesale at the city gate of Pocatello, and the offer was refused. The corporation at the time of the hearing was negotiating with the other two protestants for a contract conditioned that, in the event the drilling operations proved successful, the corporation would purchase the natural gas output at wholesale at the well or at the city gate of Pocatello for distribution.

"Transmission lines have been constructed and natural gas is now being conveyed from the gas-producing fields to Ogden, Utah," the order said. "Before the applicants and those associated with them extend the transmission main into northern Utah for service in that territory they desire to ascertain whether permission can be obtained to supply natural gas to southeastern Idaho, as the granting or refusal thereof will determine the size of the main transmission line from Ogden northward toward southeastern Idaho."

It was proposed by the applicants, according to the order, to form a corporation under the laws of Idaho to take over the construction and operation of the system if a certificate should be granted. The applicants and their associates, the commission said, have available approximately $3,500,000 for the construction of the transmission line to and through southeastern Idaho and of the several distributing systems in the State.

It was represented to the commission, the order stated, that if a certificate were to be issued an extension would be constructed of sufficient carrying capacity to supply the present and future needs of the territory for 35 years "for all purposes for which natural gas is now, or may hereafter be, used or useful.

"The evidence on behalf of the applicant," the order said, "was that rates after the first 3,000 cubic feet per month would not exceed 60 cents per 1,000 cubic feet of natural gas. It is the duty of a party requesting a certificate of public convenience and necessity to know that he can find a market for the service which he proposes to render in the territory within the reasonable limit of the full capacity of his proposed plant and systems."

In authorizing the issuance of a certificate, the commission provided that the transmission lines and distribution system shall be completed and ready for operation and service not later than October 1, 1931.

GAS LINE TO NORFOLK AND RICHMOND PLANNED

NEW YORK, June 9.—A proposal to supply the Norfolk, Va., Gas Co. with natural gas from Kentucky has been submitted by the Columbia Gas & Electric Co. and the Virginia Electric & Power Co., owners of the Norfolk plant, it is reported from Richmond.

Columbia Gas & Electric, the report states, will run a natural gas pipe line to Norfolk only in the event that natural gas can be sold at the same time to the city of Richmond. Service for the two cities, it is stated, would be economical, but servicing of one city alone would make pipe line construction and maintenance costs prohibitive.

COOPER-BESSEMER CONTRACTS

NEW YORK, June 9.—The Cooper-Bessemer Corp. has received an initial order covering the engine compressor equipment for the new $40,000,000 natural gas pipe line of the Missouri-Kansas Pipe Line Co. The first contract, the company announces, includes about 20,000 horsepower of compressors, and involves approximately $1,000,000. Cooper-Bessemer recently received a $1,250,000 contract for equipment for the new 900-mile line of the Lone Star Gas Co.

PIPE FOR PHILLIPS LINE

The Republic Steel Corp. has received an order for 800 miles, or 50,000 tons of 8-inch electric welded steel pipe from the Phillips Petroleum Co., it is announced by Tom M. Girdler, chairman of Republic. The amount involved in the order is nearly $3,000,000. This is the first large booking to be accepted by the corporation for its new electric welded pipe mill which will be placed in operation during June. Shipments on the order will start in July and will cover a period of approximately 10 weeks.

The pipe will be used to transport gasoline from Texas to Wichita, Kansas City, St. Louis and intermediate points, and it will be the largest line ever laid for this purpose.

POSTPONE HOBBS LINES

DENVER, Colo., June 9.—It is reported that the Texas Pipe Line Co. and the Shell Pipe Line Co. will both hold in abeyance for a while any plans to build into the Hobbs area. This leaves the field for the present to the Humble Pipe Line Co., the first to make connections with producing wells, and the Atlantic Pipe Line Co. which is going ahead with its project from the Midland, Tex., tank farm. Both companies are building tank farms in the Hobbs area. The explanation of the decision of The Texas Company to wait awhile is that it already has all the oil it can handle in its line which now runs to within 15 miles of Hobbs.

LINE PIPE VERY ACTIVE; NEW PROJECTS EXPECTED

By B. E. V. Luty

PITTSBURGH, Pa., June 9.—The Texas to Chicago natural gas line, pipe for which has been ordered in the past few weeks, represented by far the longest natural gas line to that time, about 950 miles, but the Missouri-Kansas Pipe Line Co. has announced that its new line will be approximately 1,250 miles, from the Panhandle Field of northern Texas to Indiana, touching Kansas City, Decatur, Terre Haute and Indianapolis and connecting with the company's Kentucky system at a point near Evansville, Ind. Much of the pipe for the line has already been ordered. The report of five weeks ago noted the placing, with National, of 375 miles of 24-inch, 350 miles of 22-inch and a large mileage in smaller sizes. The cost of the line is stated by the company to be about $40,000,000.

No additional line pipe orders of size have been reported in the past week. Producers are booked solidly for a short time, perhaps two to three months, on all sizes 10-inch and larger, with some deliveries extending beyond three months, and it is understood there are various projects likely to come to a head shortly.

National Tube Co. has started its second seamless tube mill to make up to 24-inch diameter. The first, at Gary, was completed early in the year and has lately been in regular production. The second, at Lorain, Ohio, is now in regular operation, but to date has not made as large as 24-inch. The third, at McKeesport, near Pittsburgh, will come some time later. The department at McKeesport, to make electric welded pipe, was scheduled for completion some time in July.

Thus line pipe is very active, there being much more capacity than a year ago, yet with producers fully booked, while last year some of the lap weld furnaces were not fully engaged.

Demand for oil country goods has shown no further decrease in the past few weeks. There is a good bit of drilling in Pennsylvania, but these wells are shallow and do not take much per well. It is the deep well territory that takes the tonnage in tubular goods and it is all under restriction.

Conditions in the steel trade are difficult to describe, presenting such a different aspect according to the viewpoint. Trade in steel has looked dull right along and it has been growing duller. Production has been decreasing since late in April and the present flow of business indicates further decline. Also, competition is very keen and all sellers are hungry for orders, a single carload being worth making an effort to get although a carload looks like a small order, considering that last year the steel industry shipped something like 1,500,000 carloads of say 5,000 carloads per working day. Prices have been declining in various directions for months, just a little here and there, but in the long run making a continuous performance, and prices at the present time are by no means well settled in some lines, there being more shading than usual of what is considered the open market. In several products the open market price is done on single carloads, so it is not difficult to see that much tonnage must be going at less in those lines. Rails and tin plates have held their old prices. Pipe had a sharp decline April 1 and has since been steady. Wire products were reduced May 2 and have been steady since then. Practically all other lines are irregular. Yet as closely as can be estimated the rate of steel production in the past couple of weeks has been the highest for the time of year, excepting only last year, which was a phenomenal year and had peak production late in May. Usually peak production comes in March and this year the seasonal decrease has been slower than usual, whereby the producing rate makes a more favorable comparison with other years than it did a few months ago. Steel ingot production is now at about 75 per cent of capacity, but on account of 13 per cent increase in capacity in four years that makes the same tonnage as an 85 per cent operation in 1926.

PANHANDLE EASTERN FILES APPLICATION

SPRINGFIELD, Ill., June 7.—The Panhandle Eastern Pipe Line Co. has filed application with the Illinois Commerce Commission for a certificate of convenience and necessity for the construction of a natural gas pipe line across the central part of Illinois.

The line is proposed to enter the State at Quincy and run through the counties of Adams, Pike, Scott, Morgan, Sangamon, Macon, along the line between Piatt and Moultrie, through Douglas and Edgar, leaving the State at a point east of Chrisman, Edgar County, according to a map filed with the application.

The map also shows five proposed branches from the main line, four to the north and one to the south. One branch would start east of Springfield, Sangamon County, and run north through Menard, Mason and Tazewell counties to Peoria, with lateral branches to serve Lincoln, Logan County; Bloomington, McLean County, and Pekin, Tazewell County.

Another branch would start west of Decatur, Macon County, and run to Clinton, De Witt County. Another would start east of Tuscola, Douglas County, and run north to Champaign and Urbana, Champaign County. The fourth branch would begin east of Chrisman and run through Vermillion County to Danville, while the fifth would start west of Chrisman and run to Paris, Edgar County.

The application states "that petitioner desires to construct a pipe line for the transportation of gas across the State of Illinois, and to make interstate sales only of the gas so transported.

The company was incorporated in Delaware December 23, 1929, and its principal office is in Kansas City, Mo. The Delaware certificate of incorporation was issued to the Interstate Pipe Line Co., but the certificate was amended May 9, 1930, to change the name to Panhandle Eastern Pipe Line Co. The application was signed by Ralph G. Crandall, vice president.

The Natural Gas Pipe Line Co. of America, a Delaware corporation, was authorized June 3 to do business in Illinois, according to a statement issued from the office of the secretary of state. This company was incorporated as the Continental Gas Pipe Line Corp. and the name was changed by amendment.

The papers filed at the secretary's office show the company's place of business in Illinois to be at 33 North LaSalle Street, Chicago, and its Illinois agent to be L. K. Edmonson at that address. The president of the corporation is Charles A. Frusauff, 29 Washington Square, New York City, and the secretary is Barron Fredericks, Jr., 929 Lincoln Place, Brooklyn.

The purposes of the corporation are stated to be "dealing in natural gas, artificial gas, manufactured gas and the supplying and distributing of the same for light, heat, power and other purposes." Its capitalization consists of 200 shares of stock of no par value.

Bureau of Mines Statistics, Month of April

According to reports received by the Bureau of Mines, Department of Commerce, the production of crude petroleum in the United States during April, 1930, amounted to 77,175,000 bbls., a daily average of 2,573,000 bbls. This represents an increase in daily average production over March of 77,000 bbls. but is 97,000 bbls. below the daily average of April, 1929.

The Santa Fe Springs Field declined materially in output in April, with the result that California dropped to third place among the producing states. The daily average output of the Oklahoma City Pool exceeded 100,000 bbls. for the first time. Production in West Texas declined, that of the Texas Gulf Coast area remained practically stationary but the daily average output of the remainder of the State rose from 310,000 bbls. in March to 342,000 bbls. in April. This was due primarily to developments in the Van and Darst Creek Fields.

Stocks of crude petroleum east of California continued to decrease and amounted to 379,875,000 bbls. on April 30, 1930, as compared with 380,007,000 bbls. on hand the previous month. Declines were also recorded in both light and heavy crude stocks in California.

Total stocks of refined products increased only 524,000 bbls. during the month. Natural gasoline stocks increased 36,000 bbls., but the total decrease in crude stocks amounted to 2,454,000 bbls. Total stocks, accordingly, fell off by 1,894,000 bbls. and amounted to 692,626,000 bbls. at the end of the month.

Refined Products

Crude runs to stills increased materially and amounted to 80,434,000 bbls., a daily average of 2,681,000 bbls. This compares with a daily average of 2,589,000 bbls. in March and with 2,682,000 bbls. in April, 1929.

Motor fuel production also increased and averaged 1,272,000 bbls. daily during month. Daily average exports of gasoline were slightly lower than in March but daily average indicated domestic demand was materially higher—1,152,000 bbls. for April, 1,001,000 bbls. for March. The April, 1930, figure of domestic demand represents an increase over April, 1929, of 7 per cent. Total stocks of motor fuel decreased for the first time since September, 1929, and amounted to 54,435,000 bbls. as compared with 55,239,000 bbls. on hand at the end of March. At the current rate of total demand, the April stocks represent 41 days' supply as compared with 46 days' supply on hand a month ago and 38 days' supply on hand a year ago.

The refinery data of this report were compiled from schedules of 355 refineries, with an aggregate daily recorded crude-oil capacity of 3,688,150 bbls., covering, as far as the bureau is able to determine, all operations during April, 1930. These refineries operated at 73 per cent of their recorded capacity, given above, as compared with 345 refineries operating at 71 per cent of their capacity in March.

PRODUCTION OF CRUDE PETROLEUM BY STATES WITH CLASSIFICATION BY GRAVITY

(Thousands of barrels of 42 U. S. gallons)

	April, 1930		March, 1930		Jan.-Apr.,	Jan.-Apr.,
	Total	Dly. av.	Total	Dly. av.	1930	1929
Arkansas	1,707	57	1,755	57	6,754	9,043
California:						
Long Beach	3,098	103	3,082	99	12,665	22,317
Santa Fe Springs	3,842	128	4,650	150	18,812	20,085
Rest of State	11,829	395	11,968	386	49,861	50,905
Total California	18,769	626	19,700	635	81,338	93,307
Colorado	134	4	139	5	557	791
Illinois	460	15	575	19	2,008	2,017
Indiana:						
Southwestern	87	3	77	2	318	316
Northeastern	5	....	4	....	16	20
Total Indiana	92	3	81	2	334	336
Kansas	3,498	117	3,458	111	13,213	12,230
Kentucky	641	21	620	20	2,521	2,239
Louisiana:						
Gulf Coast	568	19	583	19	2,283	2,426
Rest of State	1,281	43	1,249	40	4,818	4,154
Total Louisiana	1,849	62	1,832	59	7,101	6,580
Michigan	333	11	359	11	1,440	592
Montana	286	10	219	7	945	1,123
New Mexico	400	13	303	10	1,315	312
New York	374	12	371	12	1,389	1,039
Ohio:						
Cent. and East.	466	16	438	14	1,779	1,681
Northwestern	120	4	110	4	444	440
Total Ohio	586	20	548	18	2,223	2,121
Oklahoma:						
Osage County	....	....	1,122	36	....	5,235
Oklahoma City	3,276	109	2,231	72	10,224	511
Seminole	6,993	233	7,850	253	31,358	48,472
Rest of State	....	....	7,611	246	....	30,455
Total Oklahoma	19,651	655	18,814	607	76,260	84,673
Pennsylvania	1,298	43	1,217	39	4,804	3,511
Tennessee	1	....	....	....	4	8
Texas:						
Gulf Coast	5,289	177	5,408	175	20,718	14,552
West Texas	9,505	317	10,341	333	39,802	45,288
Rest of State	10,271	342	9,601	310	37,851	32,682
Total Texas	25,065	836	25,350	818	98,371	92,522
West Virginia	474	16	451	15	1,834	1,799
Wyoming:						
Salt Creek	926	31	950	30	3,593	3,721
Rest of State	631	21	642	21	2,435	2,333
Total Wyoming	1,557	52	1,592	51	6,028	6,054
Total United States	77,175	2,573	77,384	2,496	308,439	320,297

SHIPMENTS FROM CALIFORNIA TO EASTERN PORTS IN UNITED STATES*

(Thousands of barrels of 42 U. S. gallons)

	April, 1930	March, 1930	Jan.-Apr., 1930	Jan.-Apr., 1929
Crude oil	....	....	....	396
Refined products	1,819	1,430	7,479	8,586
Gasoline	1,504	1,073	5,831	7,218
Tops	....	....	....	....
Kerosene	....	....	99	....
Gas oil	309	243	1,323	1,270
Diesel oil	....	79	144	20
Fuel oil	3	3	13	61
Lubricants	2	30	61	6
Asphalt	1	2	8	11

*Compiled by E. T. Knudsen of the San Francisco office of the Bureau of Mines

SUPPLY AND DEMAND OF ALL OILS

(Including wax, coke and asphalt in thousands of barrels of 42 U. S. gallons)

	April, 1930	March, 1930	April, 1929	Jan.-Apr., 1930	Jan.-Apr., 1929
NEW SUPPLY:					
Domestic production:					
Crude petroleum	77,175	77,384	80,110	308,439	320,297
Daily average	2,573	2,496	2,670	2,570	2,669
Natural gasoline	4,428	4,576	4,264	17,662	16,307
Benzol	253	262	255	984	1,002
Total production	81,856	82,222	84,629	327,085	337,606
Daily average	2,729	2,652	2,821	2,726	2,813
Imports:					
Crude petroleum	5,781	4,827	7,828	20,379	29,709
Refined products	3,214	3,713	2,634	13,957	5,915
Total new supply, all oils	90,851	90,762	95,091	361,421	373,230
Daily average	3,028	2,928	3,170	3,012	3,110
Increase in stocks, all oils	*1,894	1,205	6,492	10,182	37,410
DEMAND:					
Total demand	92,745	89,557	88,599	351,239	335,820
Daily average	3,092	2,889	2,953	2,927	2,799
Exports:					
Crude petroleum	1,900	1,944	1,726	7,383	6,948
Refined products	12,442	12,496	10,357	46,981	42,378
Domestic demand	78,403	75,117	76,516	296,875	286,494
Daily average	2,613	2,423	2,551	2,474	2,387
Excess of daily average domestic production over domestic demand	116	229	270	252	426
STOCKS (end of month):					
Crude petroleum:					
East of California	379,875	380,007	380,706	379,875	380,706
California†	149,802	152,124	128,902	149,802	128,902
Total crude	529,677	532,131	509,608	529,677	509,608
Natural gasoline at plants	709	673	1,166	709	1,166
Refined products	162,240	161,716	141,099	162,240	141,099
GRAND TOTAL STOCKS, ALL OILS	692,626	694,520	651,873	692,626	651,873
Days' supply	224	240	221	237	233
Bunker oil (included above in domestic demand)	4,234	4,077	4,179	16,599	16,559

*Decrease. †Includes residual fuel oil and producers' stocks.

COMPARATIVE ANALYSES

(Thousands of barrels of 42 U.S. gallons)

	April, 1930		March, 1930		Jan.-Apr.,	Jan.-Apr.,
	Total	Dy.av.	Total	Dy.av.	1930	1929
CRUDE PETROLEUM:						
Runs to stills: Domestic	75,423	2,514	75,662	2,441	294,058	286,244
Foreign	5,011	167	4,590	148	19,205	25,779
Total	80,434	2,681	80,252	2,589	313,263	312,023
Imports	5,781	193	4,827	156	20,379	29,709
Exports	1,900	63	1,944	63	7,383	6,948
GASOLINE: Production*	38,157	1,272	37,727	1,217	146,487	136,109
Imports	1,319	44	1,369	44	4,720	2,054
Exports	5,731	191	6,057	195	22,086	17,915
Stocks†	54,435	....	55,239	....	54,435	47,039
Domestic demand	34,549	1,152	31,029	1,001	117,818	106,301
KEROSENE: Production	4,435	148	4,752	153	18,074	18,084
Imports	38	13	1	....	53	84
Exports	1,620	54	1,745	56	6,538	7,065
Stocks	8,068	....	8,455	....	8,068	7,497
Domestic demand	3,240	108	3,118	101	12,560	12,607
GAS OIL AND DISTILLATE FUELS:						
Production	6,436	215	6,231	201	25,331	.....
Stocks	13,988	....	13,184	....	13,988	.....
RESIDUAL FUEL OILS:						
Production	25,800	860	25,880	835	103,414	.....
Stocks‡	19,662	....	19,814	....	19,662	.....
GAS OIL AND FUEL OIL:						
Production	32,236	1,075	32,111	1,036	128,745	146,158
Imports	1,837	61	2,254	73	9,000	3,725
Exports	3,729	124	3,613	117	13,472	11,986
Stocks	33,650	....	32,998	....	33,650	33,404
LUBRICANTS: Production	3,193	106	3,120	101	11,920	11,290
Imports	2	....	3	....	9	10
Exports	991	33	729	24	3,498	3,818
Stocks	9,649	....	9,561	....	9,649	8,527
Domestic demand	2,116	71	2,122	68	7,951	7,295
WAX (thousands of pounds):						
Production	54,040	1,801	61,320	1,978	218,680	223,260
Imports	4,280	143	2,080	67	10,731	11,357
Exports	20,066	669	20,076	648	91,229	98,215
Stocks	241,853	....	232,241	....	241,853	170,687
Domestic demand	28,642	955	24,570	793	87,738	76,959
COKE (short tons):						
Production	150,600	5,020	160,600	5,181	596,300	524,700
Stocks	817,000	....	785,600	....	817,000	444,900
ASPHALT (short tons):						
Production	272,900	9,097	210,200	6,781	855,500	906,700
Stocks	292,800	....	287,500	....	292,800	248,800
ROAD OIL: Production	315	11	315	10	1,268	.....
Stocks	339	....	380	....	339	.....
MISCELLANEOUS: Production	349	12	363	12	1,748	2,779
Stocks	534	....	510	....	534	735

*Includes benzol production and natural gasoline used elsewhere than at refineries east of California. †Includes motor fuel blends held at natural gasoline plants. ‡East of California.

PRODUCTION OF CRUDE PETROLEUM BY FIELDS

(Thousands of barrels of 42 U. S. gallons)

	April, 1930		March, 1930		Jan.-Apr.,	Jan.-Apr.,
FIELD:	Total	Dly. av.	Total	Dly. av.	1930	1929
Appalachian:						
Pennsylvania grade	2,408	80	2,283	74	9,018	7,268
Other (inc. Kentucky)	846	28	814	26	3,313	3,009
Lima-N. E. Ind.-Mich.	458	15	473	15	1,900	1,052
Ill.-S. W. Ind.	547	18	652	21	2,326	2,333
Mid-Continent:						
N. La. and Ark.	2,988	100	3,004	97	11,572	13,197
West Tex.-S. E. N. Mex.	9,849	328	10,607	342	40,924	45,441
Other (Okla., Kans., N. Tex., etc.)	33,420	1,114	31,873	1,028	127,324	129,585
Gulf Coast:						
Grade A	2,931	98	2,963	96	11,019	7,424
Grade B	2,926	98	3,028	98	11,982	9,554
Rocky Mountain	2,033	68	1,987	64	7,723	8,127
California	18,769	626	19,700	635	81,338	93,307
Total	77,175	2,573	77,384	2,496	308,439	320,297
CLASSIFICATION BY GRAVITY (approx.):						
Light crude	68,105	2,270	68,035	2,195	271,888	288,067
Heavy crude	9,070	303	9,349	301	36,551	32,230

(Continued on Next Page)

RUNS TO STILLS AND OUTPUT OF REFINERIES, APRIL, 1930

(Thousands of barrels of 42 U. S. gallons)

	Crude oil			Unfinished oils rerun	Natural gasoline	Total input
	Domestic	Foreign	Total			
East Coast	9,814	4,686	14,500	1,236	217	15,953
Appalachian	2,881	.....	2,881	191	35	3,107
Ind., Ill., Ky., etc.	10,169	.....	10,169	274	221	10,664
Okla., Kans., Mo.	10,408	.....	10,408	194	462	11,064
Texas	17,690	66	17,756	896	1,089	19,741
Louisiana and Ark	5,047	259	5,306	619	388	6,313
Rocky Mountain	1,948	.....	1,948	341	137	2,426
California	17,466	.....	17,466	248	*1,439	19,153
United States total	75,423	5,011	80,434	3,999	3,988	88,421
Texas Gulf Coast	12,439	66	12,505	667	859	14,031
Louisiana Gulf Coast	2,954	259	3,213	315	254	3,782

	Gas oil and fuel oils					
	Gasoline	Kerosene	Gas oil and distillate fuels	Residual fuel oils	Total	Lubricants	Wax (thousands of lbs.)‡
East Coast	5,245	744	1,244	5,010	6,254	977	21,840
Appalachian	1,332	326	301	372	673	435	8,680
Ind., Ill., Ky., etc.	6,001	373	771	2,047	2,818	382	5,600
Okla., Kans., Mo.	5,685	809	251	2,622	2,873	290	2,520
Texas	8,647	1,126	961	5,700	6,661	737	5,320
Louisiana and Ark.	2,477	334	853	1,447	2,300	67	7,840
Rocky Mountain	1,204	102	80	435	515	46	2,240
California	7,088	621	1,975	8,167	10,142	259	.....
U. S. total	37,679	4,435	6,436	25,800	32,236	3,193	54,040
Texas Gulf Coast	6,257	858	625	3,630	4,255	702	5,320
La. Gulf Coast	1,688	251	573	671	1,244	51	7,840

	Other finished products				Unfinished products	Shortage
	Coke‡ (tons)	Asphalt‡ (tons)	Road oil	Miscellaneous	Total		
East Coast	13,100	127,600	67	30	97	1,156	633
Appalachian	3,700	1,100	3	30	33	113	139
Ind., Ill., Ky., etc.	48,000	46,000	75	26	101	381	90
Okla., Kans., Mo.	32,200	1,300	15	52	67	706	454
Texas	31,200	19,100	9	25	34	1,237	1,016
Louisiana and Ark.	11,400	33,100	.....	103	103	584	180
Rocky Mountain	10,800	....	11	6	17	466	13
California	200	44,700	135	77	212	†128	456
U. S. Total	150,600	272,900	315	349	664	4,771	2,981
Texas Gulf Coast	23,700	19,100	9	2	11	928	775
La. Gulf Coast	11,200	28,000	.....	94	94	158	67

*Includes 194,000 bbls. run through pipe lines. †Includes 124,000 bbls. net tops produced. ‡Wax, coke, and asphalt equivalent to 280 pounds per barrel and 5.1 and 5.5 bbls. per ton, respectively.

IMPORTS AND EXPORTS OF CRUDE PETROLEUM AND MAJOR REFINED PRODUCTS*

(Thousands of barrels of 42 U. S. gallons)

	April, 1930		March, 1930		Jan.-Apr., 1930	Jan.-Apr., 1929
CRUDE PETROLEUM—	Total	Daily av.	Total	Daily av.		
Imports	5,781	193	4,827	156	20,379	29,709
From Mexico	630	21	489	16	1,972	3,012
From Venezuela	3,413	114	2,897	93	12,622	20,537
From Colombia	1,529	51	1,380	45	5,018	4,868
From other countries	218	7	61	2	767	1,292
Exports:						
Domestic crude oil	1,900	63	1,944	63	7,383	6,948
To Canada	1,428	47	1,379	45	5,534	5,389
To other countries	472	16	565	18	1,849	1,557
Shipments	.....	.....	.....	.....	.....	2
Foreign crude oil	.....	.....	.....	.....	.....	.....
REFINED PRODUCTS:						
Gasoline:						
Imports	1,319	44	1,369	44	4,720	2,054
Exports	5,731	191	6,057	195	22,086	17,915
To United Kingdom	1,791	60	1,726	56	6,604	4,910
To France	899	30	1,055	34	3,605	2,840
To Canada	352	11	212	7	904	1,069
To other countries	2,666	89	2,828	91	10,547	8,611
Shipments	23	1	236	7	426	485
Kerosene:						
Exports	1,620	54	1,745	56	6,538	7,065
To China	395	13	179	6	936	1,055
To United Kingdom	132	4	249	8	878	1,248
To other countries	1,002	34	1,302	42	4,581	4,667
Shipments	91	3	15	.....	143	95
Gas oil and fuel oil:						
Imports	1,837	61	2,254	73	9,000	3,725
Exports	3,729	124	3,613	117	13,472	11,986
To Chile	436	14	560	18	1,628	1,979
To Panama	435	14	88	3	1,139	689
To other countries	2,525	85	2,432	79	9,229	8,328
Shipments	333	11	533	17	1,476	990
Lubricants:						
Exports	991	33	729	24	3,498	3,818
To United Kingdom	124	4	153	5	707	557
To France	147	5	76	3	493	585
To other countries	710	24	489	16	2,264	2,650
Shipments	10	.....	11	.....	34	26
Wax (thousands of lbs.):						
Imports	4,280	143	2,080	67	10,731	11,357
Exports	20,066	669	20,076	648	91,229	98,215
To United Kingdom	3,602	120	4,596	148	18,024	24,161
To Italy	1,419	47	2,581	84	14,045	10,714
To other countries	15,041	502	12,898	416	59,152	63,316
Shipments	4	.....	1	.....	8	24

*From Bureau of Foreign and Domestic Commerce.

PRODUCTION OF MOTOR FUEL

(Thousands of barrels of 42 U. S. gallons)

	April, 1930		March, 1930		Jan.-Apr., 1930	Jan.-Apr., 1929
Gasoline produced at refineries:	Total	Daily av.	Total	Daily av.		
Straightrun	20,253	675	20,043	647	77,686	79,023
Cracked	13,438	448	13,494	435	51,894	42,083
Natural gasoline:						
Blended at refineries	3,794	127	3,398	110	14,096	13,123
Run through pipe lines*	194	6	255	8	826	473
Total	37,679	1,256	37,190	1,200	144,502	134,702
Other natural gasoline:†						
Blended at plants	25	1	25	1	101	205
Sold direct to jobbers	200	7	250	8	900	200
Benzol produced‡	253	8	262	8	984	1,002
Total motor fuel	38,157	1,272	37,727	1,217	146,487	136,109

*To refineries in California. †East of California. ‡Estimated with production of by-product coke as a basis.

STOCKS OF CRUDE PETROLEUM

(Thousands of barrels of 42 U. S. gallons)

	April 30, 1930	March 31, 1930	April 30, 1929
EAST OF CALIFORNIA:			
At refineries by location:			
East Coast: Domestic	8,646	8,876	9,442
Foreign*	5,203	5,064	6,407
Appalachian	3,105	3,001	2,493
Indiana, Illinois, Kentucky, Michigan, etc.	3,516	3,333	2,932
Oklahoma, Kansas and Missouri	5,473	5,281	6,059
Texas: Inland	2,226	2,105	2,150
Gulf Coast: Domestic	10,893	9,992	9,016
Foreign*	288	271	789
Arkansas and Inland Louisiana	1,034	994	1,223
Louisiana Gulf Coast: Domestic	4,194	4,146	3,311
Foreign	1,165	1,216	2,070
Rocky Mountain	1,645	1,646	2,123
Total	47,388	45,925	48,015
At refineries by origin:			
Pennsylvania grade	2,787	2,842	(†)
Other Appalachian (inc. Kentucky)	921	939	(†)
Lima-N. E. Indiana-Michigan	224	161	(†)
Illinois-S. W. Indiana	127	155	(†)
N. Louisiana and Arkansas	4,728	4,711	(†)
West Texas and S. E. New Mexico	4,160	4,569	(†)
Oklahoma, Kansas, N. Texas, etc.	17,639	16,899	(†)
Gulf Coast: Grade A	4,817	4,592	(†)
Grade B	3,650	2,821	(†)
Rocky Mountain	1,643	1,644	2,123
California	36	41	(†)
Foreign*	6,656	6,551	9,286
Total	47,338	45,925	48,015
Elsewhere than at refineries by origin:			
Pennsylvania grade	5,286	4,974	5,619
Other Appalachian (inc. Kentucky)	1,003	975	
Lima-N. E. Indiana-Michigan	894	791	979
Illinois-S. W. Indiana	10,206	10,196	11,150
N. Louisiana and Arkansas	21,240	21,199	24,867
West Texas and S. E. New Mexico	51,994	52,919	245,550
Oklahoma, Kansas, N. Texas, etc.	197,972	198,761	
Gulf Coast: Grade A	7,931	8,754	19,966
Grade B	11,373	10,915	
Rocky Mountain	24,588	24,598	24,560
Total	332,487	334,082	332,691
Total east of California	379,875	380,007	380,706
CLASSIFICATION BY GRAVITY (approx.):			
East of California: Light	339,586	340,142	331,301
Heavy	40,289	39,865	49,405
California: Light	44,166	44,710	27,774
Heavy (including fuel)	105,636	107,414	101,128
PRODUCERS' STOCKS (not included above; approx.):			
East of California: Seminole	473	506	570
Other	5,577	5,644	5,930
Total	6,050	6,150	6,500

*Includes importers' stocks. †Not available.

STOCKS HELD BY REFINING COMPANIES, APRIL 30, 1930

(Thousands of barrels of 42 U. S. gallons)

			Gas oil and fuel oil		
	Gasoline	Kerosene	Gas oil and distillate fuels	Residual fuel oils	Total
East Coast	9,181	1,651	2,363	3,719	6,082
Appalachian	2,037	307	671	386	1,057
Indiana, Illinois, Kentucky, etc.	8,864	619	938	2,524	3,462
Oklahoma, Kansas, Missouri	5,008	736	2,038	2,457	4,495
Texas	7,868	1,408	1,997	8,048	10,045
Louisiana and Arkansas	2,677	677	508	1,567	2,075
Rocky Mountain	2,902	277	121	961	1,082
California	15,885	2,393	5,352	....	5,352
Total	54,422	8,068	13,988	19,662	33,650
Texas Gulf Coast	6,285	1,285	1,659	5,226	7,885
Louisiana Gulf Coast	2,312	627	378	771	1,149

	Wax (thousands of pounds)			Coke (tons)
	Lubricants	Crude scale	Refined	Total	
East Coast	3,336	78,341	20,101	98,442	27,900
Appalachian	1,306	20,989	3,955	24,944	6,100
Indiana, Illinois, Kentucky, etc.	701	18,733	2,484	21,217	51,500
Oklahoma, Kansas, Missouri	539	4,780	2,751	7,531	74,500
Texas	2,210	1,806	10,352	12,158	354,600
Louisiana and Arkansas	134	53,682	3,385	57,068	62,900
Rocky Mountain	149	18,807	1,686	20,493	114,800
California	1,274	.....	....	.....	124,700
Total	9,649	197,139	44,714	241,853	817,000
Texas Gulf Coast	2,125	1,505	10,352	11,857	337,800
Louisiana Gulf Coast	127	53,683	3,385	57,068	62,800

	Other finished products			Unfinished oils		
	Asphalt (tons)	Road oil	Miscellaneous	Total	Natural gasoline	Other	Total
East Coast	124,900	37	33	70	73	8,431	8,504
Appalachian	3,600	9	83	92	15	1,536	1,551
Indiana, Illinois, Kentucky, etc.	62,500	69	164	233	28	5,165	5,193
Oklahoma, Kansas, Missouri	4,300	9	30	39	17	3,088	3,105
Texas	10,400	7	24	31	179	14,690	14,869
Louisiana and Arkansas	38,700	(†)	7	7	19	3,481	3,500
Rocky Mountain	5,100	81	35	116	8	1,896	1,904
California	43,300	127	158	285	1,898	*8,413	10,311
Total	292,800	339	534	873	2,237	46,700	48,937
Texas Gulf Coast	10,300	7	15	22	161	12,737	12,898
Louisiana Gulf Coast	33,500	(†)	6	6	5	2,690	2,695

*Includes 2,832,000 bbls. tops. †Transferred to asphalt.

GASOLINE PRODUCTION BY THE VARIOUS METHODS, APRIL, 1930

(Thousands of barrels of 42 U. S. gallons)

	Straightrun		Cracked		Natural gasoline		Grand total
	Total	%	Total	%	Total	%	
East Coast	2,426	46	2,602	50	217	4	5,245
Appalachian	881	66	416	31	35	3	1,332
Indiana, Illinois, Kentucky, etc.	3,150	52	2,630	44	221	4	6,001
Oklahoma, Kansas, Missouri	3,328	59	1,895	33	462	8	5,685
Texas	4,225	49	3,333	38	1,089	13	8,647
Louisiana and Arkansas	1,071	43	1,018	41	388	16	2,477
Rocky Mountain	576	48	491	41	137	11	1,204
California	4,596	65	1,053	15	*1,439	20	7,088
Total	20,253	54	13,438	36	3,988	10	37,679
Texas Gulf Coast	2,740	44	2,658	42	859	14	6,257
Louisiana Gulf Coast	756	45	678	40	254	15	1,688

*Includes 194,000 bbls. run through pipe lines.

(Continued on Next Page)

INDICATED DOMESTIC DEMAND FOR CRUDE PETROLEUM, EAST OF CALIFORNIA
(Thousands of barrels of 42 U. S. gallons)

Domestic Petroleum by fields of origin:	April, 1930 Total	April, 1930 Dly. av.	March, 1930 Total	March, 1930 Dly. av.	Jan.-Apr., 1930	Jan.-Apr., 1929
Appalachian:						
Pennsylvania grade	2,151	72	1,973	64	8,123	10,173
Other (inc. Kentucky)	836	28	727	23	3,182	1,235
Lima-N. E. Ind.-Mich.	292	10	461	15	1,588	2,550
Ill.-S. W. Ind.	565	19	545	18	2,624	
Mid-Continent:						
N. La. and Ark.	2,930	98	3,207	103	12,335	14,733
West. Tex.-S. E. N. Mex.	11,183	373	10,705	345	42,942	168,892
Other (Okla., Kans., N. Tex., etc.)	33,469	1,116	33,650	1,086	127,664	
Gulf Coast:						
Grade A	3,529	117	2,708	87	11,429	15,284
Grade B	1,639	54	3,545	114	11,485	
Rocky Mountain	2,044	68	1,855	60	7,807	8,997
California	5	....	.....	....	9	.....
Total demand	58,643	1,955	59,376	1,915	229,188	221,864
Exports	1,085	36	1,071	34	4,283	4,267
Domestic demand	57,558	1,919	58,305	1,881	224,905	217,597
Foreign petroleum	5,676	189	4,434	143	19,808	29,683
Total domestic demand east of California	63,234	2,108	62,739	2,024	244,713	247,280

NUMBER OF WELLS COMPLETED ALL FIELDS*

	April, 1930	March, 1930	Jan.-Apr., 1930	Jan.-Apr., 1929
Oil	1,151	1,090	4,270	4,498
Gas	211	180	784	806
Dry	621	585	2,141	2,429
Total	1,983	1,855	7,195	7,733

*From The Oil and Gas Journal and California office of American Petroleum Institute.

RECORD OF WELLS FOR VARIOUS IMPORTANT FLUSH FIELDS, APRIL, 1930*

	Completions Oil	Gas	Dry	Total initial production (bbls.)	Average initial production (bbls.)	Drilling April 30
Seminole, St. Louis, etc.	64	8	16	47,900	700	174
West Texas	38	2	23	18,000	500	233
Long Beach	15	..	5	6,200	400	67
Santa Fe Springs	17	..	2	9,300	500	34

*From The Oil and Gas Journal and California office of American Petroleum Institute.

PRODUCTION AND DISTRIBUTION OF NATURAL GASOLINE
(Thousands of barrels of 42 U. S. gallons)

	Apr., 1930 Total	Apr., 1930 D'ly av.	Mar., 1930 Total	Mar., 1930 D'ly av.	Jan.-Apr., 1930 Total	Jan.-Apr., 1930 D'ly av.
Production	4,428	148	4,576	148	17,662	147
Decrease in all stocks	....	....	.....	....	.....	....
Total	4,428	148	4,576	148	17,662	147
Blended at refineries	3,794	127	3,398	110	14,096	117
Run through pipe lines in California	194	6	255	8	826	7
Blended at plants*	25	1	25	1	101	1
Sold directs to jobbers*	200	7	250	8	900	8
Increase in all stocks	36	1	179	6	657	5
Balance	179	6	469	15	1,082	9
Total	4,428	148	4,576	148	17,662	147

*East of California.

PANHANDLE FIELDS

(Continued from Page 64)

of 9 bbls. oil and 15 bbls. of water, with a total depth of 1,460 feet.

Stephens County

W. M. Collins' No. 1 Cunningham was completed with a total depth of 3,984 feet, well was shot with 140 quarts from 3,670-3,729 feet, initial production of well was 6 bbls. Texas Pacific Coal & Oil Co.'s No. 10 Newell was completed with a total depth of 4,710 feet, was plugged back to 3,985 feet. Well is to be used as key well to repressure.

Throckmorton County

Burton and others' No. 1 White was completed with a total depth of 715 feet with 2,500,000 feet of gas from 710-12 feet.

TEXAS PANHANDLE COMPLETIONS

Cochran County

Westbrook and others' No. 1 Slaughter was dry and abandoned at a total depth of 5,539 feet.

Gray County

Empire Gas & Fuel Co.'s No. 1-B Barcher had the top of the pay at 3,135 and 3,150 feet, well was shot with 100 quarts from 3,160-90 feet, came in for an initial production of 400 bbls. at a total depth of 3,210 feet. Empire Gas & Fuel Co.'s No. 1 Shields topped the pay at 3,155 feet, came in for an initial production of 240 bbls at a total depth of 3,200 feet. Humble Oil & Refining Co.'s No. 3 Combs & Worley had the top of the pay at 2,848 feet, came in for an initial production of 1,860 bbls. at a total depth of 2,862 feet. Magnolia Petroleum Co.'s No. 8 Wright topped the pay at 2,855 feet, came in for an initial production of 170 bbls. of oil and 5,000,000 feet of gas, was completed at a total depth of 2,855 feet.

Phillips Petroleum Co.'s No. 3 Wright (Wood) had the top of the pay at 2,830 feet and 2,860 feet, initial production of well was 38 bbls. of oil and 2,500,000 feet of gas, completed at a total depth of 2,875 feet. Wilcox-Pampa Oil Co.'s No. 12 Combs & Worley had the top of the pay at 2,890 feet, came in for an initial production of 1,383 bbls., and was completed at a total depth of 2,913 feet. Follett Petroleum Corp.'s No. 1 J. A. Wood was dry and abandoned at a total depth of 3,130 feet.

The Texas Company's No. 4-A McLarty had the top of the pay at 2,675 feet, well came in for an initial production of 10 bbls. oil and 7,000,000 feet of gas, was completed at a total depth of 2,700 feet. The Texas Company's No. 4-B McLarty was completed with a total depth of 2,812 feet, had 4,000,000 feet of gas at 2,675-2,780 feet, initial production of well from granite wash at 2,690-95 feet and 2,760-65 and 2,780-90 feet was 60 bbls. The Texas Company's No. 4 Shaw had the top of the pay at 2,860 feet, well came in for an initial production of 15 bbls. of oil and 5,000,000 feet of gas, well was completed with a total depth of 2,713 feet. Shamrock Oil & Gas Co.'s No. 5 Lincoln-Saunders, top of the pay was 2,500 feet and 2,550 feet, had 3,000,000 feet of gas at 2,470 feet, well was shot with 20 quarts from 2,469-2,500 feet, and with 100 quarts from 2,500-25 feet, came in for an initial production of 520 bbls. of oil and 43 bbls. of water, total depth of well was 2,555 feet.

Hutchinson County

Dixon Creek Oil Co.'s No. 6 Cheatham had the top of the pay at 2,998 feet and 3,074 feet, came in for an initial production of 50 bbls. of oil and 40 bbls. of water, well was completed with a total depth of 3,084 feet. Phillips Petroleum Co.'s No. 1 Johnson Brothers (Burl) had the top of the pay at 3,038 feet, well came in for an initial production of 15 bbls. of oil and was completed with a total depth of 3,050 feet. Texas State Oil Co.'s No. 1 Dunway, location was abandoned.

Hartley County

Dana Oil & Gas Co.'s No. 1 Felts was completed with a total depth of 3,828 feet, well was plugged back to 3,677 feet and shot with 40 quarts from 3,610-30 feet, had 13,500,000 feet of gas from 3,565-3,670 feet.

Moore County

Red River Oil & Gas Co.'s No. 1-A Shelton was completed with a total depth of 3,080 feet, well was plugged back to 2,900 feet, had 6,000,000 feet of gas from 2,175 feet, and 57,000,000 feet of gas from 2,690 feet.

Wheeler County

Murchison & Fain's No. 14 Close topped the pay at 1,345 feet, came in for an initial production of 65,000,000 feet of gas and was completed with a total depth of 1,710 feet. Murchison & Fain's No. 3 Parsons had top of the pay at 1,630 feet, came in for an initial production of 60,000,000 feet of gas and was completed with a total depth of 1,750 feet. Wischkamper and others' No. 2 Brown topped the pay at 1,630 feet, came in for an initial production of 45,000,000 feet of gas, and was completed with a total depth of 1,780 feet. Wischkamper and others' No. 3 Curry had top of the pay at 1,593 feet, came in for an initial production of 25,000,000 feet of gas, and was completed with a total depth of 1,730 feet.

WICHITA FALLS COMPLETIONS

Archer County

Bass & Dillard's No. 1 Boellstorff was dry and abandoned at a total depth of 1,502 feet. Bridwell Oil Co.'s No. 5 Fails had oil sand at 1,356 feet and was completed with a total depth of 1,365 feet, with an initial production of 30 bbls. Fain & McGaha Oil Corp.'s No. 1 Anderson was dry and abandoned at a total depth of 1,504 feet. Gilliland and others' No. 4 Symank had oil sand at 1,406 feet, well came in for an initial production of 40 bbls of oil, and was completed with a total depth of 1,423 feet. Golding & Cochran's No. 2 Jeske had oil sand at 1,163 feet, was completed with a total depth of 1,171 feet, and with an initial production of 60 bbls. of oil and 3 bbls. of water.

Harris and others' No. 1 Richardson was dry and abandoned at a total depth of 1,450 feet. T. F. Hunter's No. 1 Kunkel was dry and abandoned at 1,202 feet. Lincoln and others' No. 1 Fisk was dry and abandoned at a total depth of 1,450 feet. L. A. Long's No. 1 Garvey Brothers was dry and abandoned at a total depth of 815 feet. Steel Drilling Co. and King Royalty Co.'s No. 1 Goodwin was dry and abandoned at a total depth of 1,504 feet.

Cooke County

Deep Rock and others' No. 1 Bugg had top of the pay at 1,308 feet, well came in for an initial production of 8 bbls. and was completed with a total depth of 1,357 feet.

Montague County

Bridwell Oil Co.'s No. 5 Dennis had oil sand at 1,749 feet, well came in for an initial production of 35 bbls. and was completed at a total depth of 1,753 feet. Bridwell & Conoco's No. 9 McGaughy had oil sand at 1,571 feet, came in for an initial production of 50 bbls., and was completed with a total depth of 1,580 feet. United Producers Co.'s No. 1 York and others was dry and abandoned at 1,963 feet.

Wichita County

Arkansas Fuel Oil Co.'s No. 34 Kemp & Kempner had oil sand at 1,755 feet, was completed with a total depth of 1,770 feet, well was plugged back to 1,769 feet, and came in for an initial production of 40 bbls. C. P. Sheldon's No. 1 Swanson & Gober was dry and abandoned at a total depth of 2,010 feet. Walter & Blair's No. 1 Hanaker had oil sand at 852 feet, came in for an initial production of 20 bbls. and was completed with a total depth of 859 feet. Barnsdall Oil Co.'s No. 15 Wilson had oil sand at 1,710 feet, came in for an initial production of 55 bbls. of oil and was completed with a total depth of 1,712 feet.

L. T. Burns' No. 1 Turbeville was dry and abandoned at a total depth of 1,515 feet. W. B. Omohundro's No. 1 Wilson was dry and abandoned at a total depth of 1,485 feet. Perkins & Cullum's No. 1 Margold was dry and abandoned at a total depth of 1,550 feet. Stroube and others' No. 1 White was dry and abandoned at a total depth of 1,625 feet. Underwood Drilling Co. and others' No. 2 Perkins was dry and abandoned at a total depth of 1,703 feet.

Wilbarger County

Atlantic Oil Producing Co.'s No. 14 Segler-Waggoner had the top of the pay at 2,656 feet, came in for an initial production of 100 bbls. and was completed with a total depth of 2,670 feet. Bradstreet Co.'s No. 7 Waggoner had the top of the pay at 2,384 feet, came in for an initial production of 70 bbls. and was completed with a total depth of 2,389 feet. Empire Gas & Fuel Co.'s No. 23 Waggoner had top of the pay at 2,252 feet, came in for an initial production of 80 bbls. and was completed with a total depth of 2,292 feet. Empire Gas & Fuel Co.'s No. 24 topped the pay at 2,254 feet, was completed with an initial production of 90 bbls. and with a total depth of 2,292 feet. Staley-Wynne & Co.'s No. 9 Waggoner had top of the pay at 2,404 feet, came in for an initial production of 130 bbls., completed with total depth of 2,422 feet. The Texas Company's No. 382 Waggoner was dry and abandoned at a total depth of 1,123 feet. Simms Oil Co.'s No. 1 Ayers was dry and abandoned at a total depth of 2,666 feet.

Jack County

Republic Production Co.'s No. 3 Ezell had top of the pay at 3,068-85 feet and 3,182 feet, well was plugged back to 3,190 feet, came in for an initial production of 200 bbls., completed at a total depth of 3,200 feet.

Young County

Adams-Smith and others' No. 1 Dunagan was dry and abandoned at a total depth of 1,102 feet. Alexander, Jr.'s No. 1 Jeffrey was dry and abandoned at a total depth of 955 feet. Allen & Cromwell's No. 1 Alexander was dry and abandoned at a total depth of 1,370 feet. Benson Brothers' No. 1 Liberman was dry and abandoned at a total depth of 703 feet. The Banner Oil Co.'s No. 7 Davis was dry and abandoned at a total depth of 940 feet. Brazelton Brothers and others' No. 1 Hall was dry and abandoned at a total depth of 907 feet. Bridgeport Machine Co.'s No. 1 Knox was dry and abandoned at a total depth of 1,235 feet. Bridwell Oil Co.'s No. 1 Helay was dry and abandoned at a total depth of 938 feet. Carey and others' No. 5 Lowe had oil sand at 642 feet, came in for an initial production of 5 bbls. and was completed with a total depth of 654 feet. Daniels-Adair and others' No. 1 Wilson had oil sand at 1,063 feet, well came in for an initial production of 30 bbls. and was completed with a total depth of 1,074 feet. Dilday and others' No. 1 Hennig was dry and abandoned at a total depth of 1,101 feet. Fain & McGaha Oil Corp.'s No. 1 Dunn was dry and abandoned at a total depth of 1,087 feet. Fowler and others' No. 3 Hill had the oil sand at 1,028 feet, well came in for an initial production of 65 bbls. and was completed with a total depth of 1,041 feet.

Goldsmith and others' No. 1 Mercer was dry and abandoned at a total depth of 1,097 feet. L. P. Hammond's No. 1 Wolf had the oil sand at 1,043 feet, well came in for an initial production of 230 bbls. and was completed with a total depth of 1,079 feet. Hunter Oil Corp.'s No. 6 Benson had the oil sand at 1,076 feet, came in for an initial production of 25 bbls., and was completed with a total depth of 1,092 feet. Hunter Oil Corp.'s No. 2-A Bloodworth had the oil sand at 1,054 feet, well was shot with 20 quarts and came in for an initial production of 30 bbls., well was completed with a total depth of 1,080 feet. T. F. Hunter and others' No. 2-B Bloodworth had the oil sand at 1,042 feet, well came in for an initial production of 611 bbls. and was completed with a total depth of 1,078

feet. F. P. Hynes' No. 1 Bailey was dry and abandoned at a total depth of 850 feet. Morris & Dunn's No. 2 Wilson was dry and abandoned at a total depth of 1,024 feet. Nix & Dale's No. 2 Daniel had the oil sand at 864 feet, came in for an initial production of 34 bbls. and was completed with a total depth of 884 feet.

Panhandle Refining Co.'s No. 1 Hutchings was dry and abandoned at a total depth of 1,074 feet. Perkins & Cullum's No. 13 Dunagan had the oil sand at 1,057 feet, and was completed with an initial production of 80 bbls. with a total depth of 1,078 feet. Gordon & Morris' No. 1 Donnell was completed with a total depth of 3,301 feet, shot 20 quarts in lime pay at 3,283-93 feet, came in for an initial production of 40 bbls. Remington & Terrell's No. 1 Graham had the oil sand at 682 feet and was completed for an initial production of 200 bbls. with a total depth of 692 feet. E. R. Riggs' No. 5 Larimore had the oil sand at 693 feet, came in for an initial production of 810 bbls. and was completed with a total depth of 705 feet. Shappell Oil Co.'s No. 7 Garrett was dry and abandoned at a total depth of 731 feet. Shappell Oil Co.'s No. 4-B Garrett was dry and abandoned at a total depth of 800 feet.

Staley-Wynne & Kruger's No. 1 Bloodworth had the oil sand at 1,049 feet, was completed with an initial production of 120 bbls. and with a total depth of 1,075 feet. Shaw Oil Corp.'s No. 3-A Kisinger had top of the pay at 2,501 feet, was completed with an initial production of 132 bbls. per hour for 24 hours; total depth 2,501 feet. Tantenhaha's No. 1 Deiter was dry and abandoned at a total depth of 1,282 feet. Tidwell & Riggs' No. 1 Colley was dry and abandoned at a total depth of 852 feet. Vandivert and others' No. 1 Larimore had the oil sand at 691 feet, was completed for an initial production of 288 bbls. with a total depth of 697 feet. R. J. Watson's No. 1 Terrell estate was dry and abandoned at a total depth of 735 feet. Western Production Co.'s No. 1 Hamilton was dry and abandoned at a total depth of 1,015 feet. Transcontinental Oil Co.'s No. 1 Donnell was completed with a total depth of 4,075 feet, initial production 4,000,000 feet of gas from sandy lime at 4,070-72 feet. D. L. Wolf's No. 1 Leberman was dry and abandoned at a total depth of 910 feet.

WEST TEXAS FIELDS

(Continued from Page 63)

back to 4,380 feet, and shot with 150 quarts from 4,306-67 feet; initial production 624 bbls.

Irion County

Fox and others' No. 3 Tankersley, dry and abandoned; total depth 1,430 feet.

Pecos County

Cardinal Oil Co.'s No. 1 Tippett (Kirby), top pay at 461 feet; initial production 30 bbls.; total depth 568 feet. Same company's No. 3 Tippett (Kirby), top pay 427 feet; initial production 150 bbls.; total depth 500 feet. Dixie Oil Co.'s No. 5 Torborg, top pay 328 feet; total depth 425 feet; initial production 180 bbls. Henshaw Brothers and others' No. 2 University, top pay 1,032 feet, shot 10 quarts from 1,032-37 feet and 20 quarts from 1,017-20 feet; initial production 140 bbls.; total depth 1,060 feet. Messenger and others' No. 1 Byrne, top pay 1,298 feet; initial production 150 bbls; total depth 1,327 feet. Transcontinental Oil Co.'s No. 3 Sellman, top pay 1,900 feet; plugged back to 1,923 feet and shot with 10 quarts from 1,900-15 feet; initial production 7 bbls.; total depth 1,998 feet. Same company's No. 1-A Sellman, top pay 1,881 feet, shot 50 quarts from 1,850-1,900 feet; initial production 40 bbls.; total depth 1,901 feet. Walsh-Sturm & Keller's No. 1 Shearer, temporarily abandoned. Hagan & Emch and Amerada's No. 1 Sawyer Cattle Co., dry and abandoned; total depth 2,850 feet. Texon Oil & Land Co.'s No. 2-B University, top pay 8,131 feet; initial production 1,500 bbls; testing 60.1 gravity; total depth 8,489 feet.

MID-CONTINENT REFINERY RUNS LESS

(Continued from Page 30)

REFINERY OPERATIONS IN WEST TEXAS

(Plants which have been in operation during the past year)

	Daily capacity	Runs June 1	Runs May 1
Amarillo Producers & Refiners Corp., Pyote	3,000	1,500	1,500
Big Spring Refining Co., Big Spring	2,500	1,400	1,500
Big Lake Refining Co., Big Lake	2,000	(*)	500
Blue Bonnett Oil Refining Co., Wickett	5,000	(*)	3,000
Burford Oil Co., Pecos City	6,000	5,500	5,000
Central Texas Refining Co., Brownwood	2,000	600	700
Central Texas Refining Co., Luling	2,500	1,900	1,900
Coltex Refining Co., Colorado	10,000	6,000	6,000
Cosden Oil Co., Big Spring	15,000	8,000	6,000
Del Rio Refining Co., Del Rio	5,000	3,000	2,900
Grayburg Oil Co., San Antonio	6,000	3,000	3,000
Great West Refining Co., Big Spring	8,500	3,600	3,700
Gulf Oil & Refining Co., Sweetwater	5,000	5,000	5,000
Humble Oil & Refining Co., San Antonio	5,000	2,500	2,300
Humble Oil & Refining Co., McCamey	15,000	10,000	9,500
Magnolia Petroleum Co., Luling	3,000	2,500	2,500
Misko Refineries, Inc., Laredo	1,500	500	500
Mid-Tex Refining Co., Midland	2,500	(*)	(*)
Pasotex Refining Co., El Paso	10,000	10,800	8,300
Pecos Valley Refining Co., Pyote	8,500	(*)	(*)
Pioneer Oil & Refining Co., Somerset	1,500	900	1,000
Richardson Refining Co., Big Spring	6,000	4,100	4,000
Rio Grande Oil Co., El Paso	6,000	3,000	2,000
San Angelo Refining Co., San Angelo	2,000	500	500
Sweetwater Oil & Refining Co., Sweetwater	2,000	200	200
The Texas Company, San Antonio	3,000	2,500	2,500
The Texas Company, El Paso	1,500	1,200	1,000
Tonkawa Petroleum Co., Pyote	5,000	1,900	2,500
Texas Mexican Oil & Refining Co., Laredo	1,000	300	200
Texas Petroleum Products Co., Somerset	1,500	800	800
Wickett Refining Co., Wickett	2,500	(*)	200
Total	150,000	81,200	78,700

*Shut down.

REFINERY OPERATIONS IN KANSAS

(Plants which have been in operation during the past year)

	Daily capacity	Runs June 1	Runs May 1
Barnsdall Refineries, Inc., Wichita	4,000	1,800	2,200
Derby Oil Co., Wichita	6,000	6,000	5,500
Eldorado Refining Co., Eldorado	3,500	3,000	3,000
Golden Rule Refining Co., Wichita	1,500	1,000	1,000
Kanotex Refining Co., Arkansas City	10,000	2,500	6,000
Independent Oil & Gas Co., Kansas City	6,000	5,000	5,000
National Refining Co., Coffeyville	6,500	5,000	5,000
Peerless Oil Refining Co., Chanute	3,000	2,000	2,000
Shell Petroleum Corp., Arkansas City	22,000	17,000	17,000
Sinclair Refining Co., Coffeyville	12,000	11,000	11,000
Sinclair Refining Co., Argentine	9,500	8,000	5,500
Skelly Oil Co., Eldorado	23,000	15,300	14,500
Standard Oil Co. of Kansas, Neodesha	20,000	11,000	12,000
Vickers Petroleum Co., Potwin	3,500	2,100	2,200
White Eagle Oil Corp., Augusta	10,000	10,000	10,000
Total	140,500	100,700	101,900

REFINERY OPERATIONS IN NORTH LOUISIANA

(Plants which have been in operation during the past year)

	Daily capacity	Runs June 1	Runs May 1
Bayou State Refining Co., Hosston	750	500	550
Crystal Oil Refining Corp., Shreveport	14,000	(*)	(*)
Dixie Oil Co., Superior	3,000	2,800	2,700
Louisiana Oil Refining Co., Shreveport, Bossier	24,000	18,000	16,700
Shreveport, El Dorado Pipe Line Co., Shreveport	10,000	8,800	9,000
The Texas Company, Shreveport	7,000	(*)	(*)
Total	58,750	30,100	28,950

*Shut down.

REFINERY OPERATIONS IN ARKANSAS

(Plants which have been in operation during the past year)

	Daily capacity	Runs June 1	Runs May 1
James H. Berry & Sons, Waterloo	2,000	1,000	1,000
Henry H. Cross Co., Smackover	6,000	5,000	5,000
Houston Oil Co., Camden	3,000	2,000	3,400
Kettle Creek Refining Co., Pearson	5,000	1,600	2,800
Lion Oil & Refining Co., El Dorado	12,000	6,500	8,000
Macmillan Petroleum Products Co., El Dorado	1,800	1,550	1,600
Ouachita Valley Refining Co., El Dorado	2,000	1,000	1,000
Root Refining Co., El Dorado	10,000	8,600	8,400
Simms Oil Co., Smackover	3,000	2,500	2,500
Total	44,800	29,750	33,700

*Shut down.

NEED CURTAILMENT IN REFINERY RUNS

(Continued from Page 33)

last year. Stocks were too heavy for a healthy market situation on May 1 of last year and the additional stocks this year apparently will have to be at least partially liquidated before the industry generally can profit from a better condition in crude oil supply and demand.

Gasoline Stocks

A little over 50 per cent of the increase in gasoline stocks on May 1 when compared with stocks on the same date in 1929, came from California refineries. Stocks at California plants on May 1 totaled 15,885,000 bbls. which was 3,862,000 bbls. or approximately 36 per cent greater than on May 1, 1929. It is not believed that these western stocks constitute as much a threat to the gasoline market generally as they did last year. The west coast refiners have curtailed operations, their runs to stills in April totaling 17,466,000 bbls. which compares with 19,339,000 bbls. for April, 1929. An effort is being made to keep the gasoline supply in line with the normal increase in domestic and export demand and not increase shipments to East Coast points. If this aim is obtained, it should materially aid the eastern market situation through the summer months.

The following table shows the refinery gasoline stocks on May 1 outside of California (data given in thousands of barrels):

Area—	May 1, 1930	May 1, 1929
East Coast	9,181	7,525
Appalachian	2,037	1,850
Indiana-Illinois	8,864	7,862
Oklahoma; Kansas, etc.	5,008	5,622
Texas	7,868	6,933
Louisiana-Arkansas	2,677	2,575
Rocky Mountains	2,902	2,625

It will be noted that gasoline stocks on May 1 of this year were higher in all areas with the exception of Oklahoma and Kansas. Refiners in the latter two states have operated on a conservative basis endeavoring to keep their gasoline output in line with a demand from a consuming territory in the middle west where refining operations are expanding rapidly.

Other Products

Although daily average production of kerosene was less in April than in March the statistical situation of that product was not materially improved. April is one of the best domestic consuming months of the year for kerosene but refiners reduced their stocks less than 400,000 bbls.

With both export and domestic demand less than last year, according to government reports for the first four months, it will be necessary to make additional curtailments in refinery output if market conditions are to be improved. May, June and July are usually dull months in the gasoline market, the fall demand getting under way in August.

Exports and domestic demand for lubricants both improved during April but there was a greater gain in domestic production so that stocks were again increased. The April increase was approximately 100,000 bbls. Total stocks on May 1 were 13.1 per cent greater than on the same date last year.

Faced with prices at the lowest level in recent years refiners in April reduced their production of petroleum wax from 1,978,000 pounds daily in March to 1,801,000 pounds daily in April. This is well below the average production for the first four months of this year and 1929. Imports, however, increased from 67,000 pounds daily in March to 143,000 pounds daily in April so there was little difference in total supply for the two months. Stocks were again increased approximately 10,000,000 pounds during April and on May 1 were 41.7 per cent greater than on May 1, 1929.

CITIES SERVICE-JERSEY VENEZUELAN PLANS

NEW YORK, June 9.—Subsidiaries of the Cities Service Co. have reached an agreement with the Standard Oil Co. (New Jersey) for the development of a large acreage in Venezuela. The joint exploration operations are to be carried on by engineers of the two companies on 400,000 acres of land in the peninsula of Paraguana.

"Subsidiaries of the Cities Service Co. and the Standard Oil Co. (New Jersey)," says the announcement by Cities Service, "have entered into a contract for the development of over 400,000 acres of potential oil lands in the peninsula of Paraguana in Venezuela. The contract calls for the formation of the Paraguana Petroleum Corp., which will commence drilling at once, and in which Cities Service will eventually have a controlling interest. Owing to ready accessibility and the fact that transportation over the dangerous Maracaibo bar will be eliminated, production from Paraguana should compete successfully with the production from the present fields around Maracaibo Lake. The producing company also will have the added advantage of a good climate. In contrast to unhealthy conditions in the Maracaibo fields, the Paraguana peninsula is considered a health resort."

Standard Oil Co. (New Jersey) will participate in the development through Creole Petroleum Corp., a subsidiary.

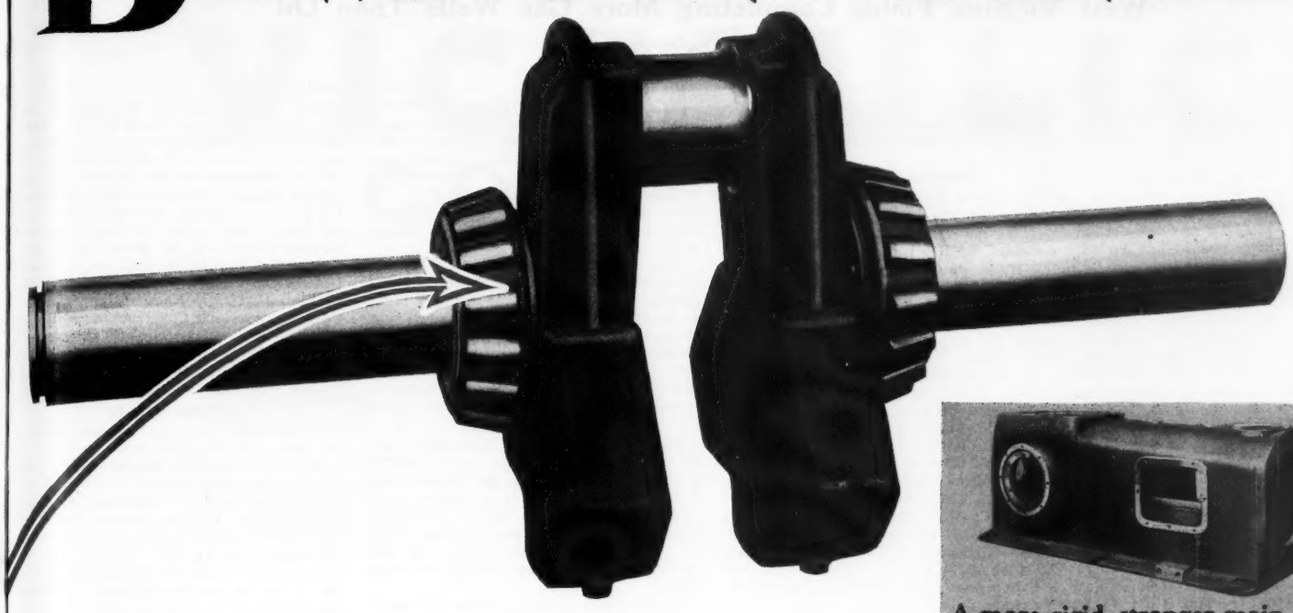
DEATH OF R. S. KING

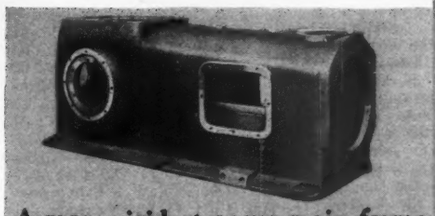
The funeral of R. S. (Bob) King, 48, Fort Worth, Tex., oil man, was held in Wilkinsburg, Pa., last week. Mr. King died in St. Louis after an illness of two days. He first worked for the Hope Natural Gas Co., a subsidiary of the Standard Oil Co. of New Jersey, and later for the Ohio Oil Co. and its subsidiaries. He moved to Fort Worth from Thurber, Tex., where he had been with the Texas Pacific Coal & Oil Co. At the time of his death he was president of the Blackstone Oil Co., the Keystone Royalty Co. and the King Properties Co.

WANT GAS LINES UNDER I.C.C.

A bill placing natural gas pipe lines under the jurisdiction of the Interstate Commerce Commission, or another branch of the Federal Government, is being prepared by the Kansas public service commission and will be introduced by Senator Henry J. Allen, according to a statement issued by Governor Clyde M. Reed.

BESSEMER

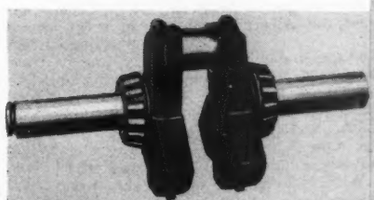




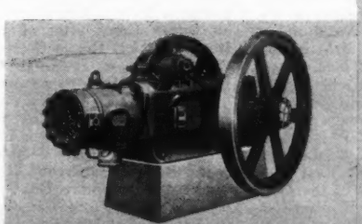
A more rigid, stronger main frame

TIMKEN main roller bearings on the new Type-GA pumping and drilling engine were developed for heavy railway service and are considerably oversize. They permit stronger frame construction; minimize friction; seldom need adjustment; and are safer if lubrication is interrupted. In service on two other types of Cooper-Bessemer engines, these bearings have never needed adjustment. Type-GA (which replaces Type-OF and sells at the same price) has five other value-increasing improvements:—

1. A die-forged crank shaft.
2. A more rigid, stronger main frame.
3. A greatly improved governor.
4. Improved piston rod packing.
5. Safety stop operating on ignition.



A die-forged crank shaft



Improved piston rod packing

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Always safe in choosing a Cooper-Bessemer

Tuscarawas and Muskingum Active

Deep Sand in Southeast Ohio Furnishes Most New Production. West Virginia Fields Completing More Gas Wells Than Oil

By D. S. Wakenight
Staff Correspondent, Eastern Fields

PITTSBURGH, Pa., June 9.—The deep sand territory in Tuscarawas and Muskingum Counties is

the most active in Southeast Ohio and furnishing the greater part of the new production. The West Virginia fields are completing more gas wells than oil producers. During the past week the completed list contains more than the usual number of dry holes. In May more wells were completed than in April and the volume of new production was somewhat less. For the same period the amount of new work starting was a little more than in April.

SOUTHEAST OHIO

In the northwest quarter of Section 3, Clay Township, Muskingum County, Frank B. Mauller & Co. completed and shot in the Clinton sand No. 4 on the Ohio State Brick farm. It produced 130 bbls. the first 24 hours. In the same quarter section, same township and county, the Kachelmacher estate has completed and shot in the Clinton sand No. 3 on the Eastern Hocking Coal Co.'s property. It produced 90 bbls. the first 24 hours.

In the northeast quarter of Section 25, Washington Township, Hocking County, the Gordon Oil Co.'s second test on the Carlos E. Goodwin farm produced 28 bbls. the first 24 hours after shot in the Clinton sand. In Section 13, Franklin Township, Licking County, A. W. Patten & Co. have an 8-bbl. pumper in the Berea grit at No. 3 on the Albert Gutridge farm.

In the southeast quarter of Section 13, Monroe Township, Harrison County, Frank Quinn completed No. 9 on the John A. Long farm, a 5-bbl. pumper in the Berea grit. In Section 11, Sutton Township, Meigs County, the Twenty-Five Association has a light pumper at No. 18 on the William Carnahan farm.

In the northwest quarter of Section 3, Clay Township, Muskingum County, Crowley, Carr and others completed and shot in the Clinton sand No. 3 on the Nelson McCoy farm. It produced 80 bbls. the first 24 hours. In the same quarter section, William Cline & Co. completed in the same formation No. 6 on the Robinson Ransbottom farm. It produced 55 bbls. the first 24 hours.

Hocking County

In the northeast quarter of Section 16, Ward Township, Hocking County, the Preston Oil Co.'s No. 1,409 on the Sunday Creek Coal Co.'s property is a duster in the Clinton sand. It is 700 feet south of the same company's No. 1,300 on the same lease. In Section 9, Lake Township, Ashland County, the Great Lakes Oil Co. completed in the Berea grit No. 6 on the John P. Smith farm. It is a light gasser, spraying oil at the rate of 3 bbls. a day.

In Section 6, Richland Township, Holmes County, the East Ohio Gas Co. completed in the Clinton sand a test on the Alonzo McFadden farm. It is a gasser good for 5,000,000 feet. In Lots 34 and 35, Hardy Township, the East Ohio Gas Co. completed and shot in the Clinton sand a test on the D. E. Finley & Co. farm. It produced 85 bbls. the first 24 hours.

In Lot 3, Section 10, Chatham Township, Medina County, the Oko Oil & Gas Co. completed in the Berea grit No. 36 on the Watson-Sanford farm, a 5-bbl. pumper. In Section 24, Washington Township, Hocking County, the Gordon Oil Co.'s No. 11 on the Robert Stone farm is a duster. In the same district, the same company is drilling a second test on the Carlos E. Goodwin farm. In Ward Township, the Preston Oil Co. is due in the sand at No. 1,409 on the Sunday Creek Coal Co.'s property. In Washington Township, the Pure Oil Co. is due in the sand on the Elmer Harsh farm.

Muskingum County

In Section 16, Brush Creek Township, Muskingum County, the Davis Oil Co.'s test on the Thomas B. Weaver farm is a duster. M. F. Whitehill is drilling on the B. L. Shultz farm. In Perry Township, Muskingum County, the Ohio Fuel Gas Co. has a gasser on the Charles Johnson farm. In Union district, the Atha Oil Co. is drilling on the John Pitts farm.

In the southeast quarter of Section 21, Oxford Township, Tuscarawas County, the Gordon Oil Co. and others completed in the Niagara lime a second test on the Sarah E. Ripley farm. It is a gasser good for 2,000,000 feet.

At Bollins Mills, Section 4, Knox Township, Vinton County, the Powers Oil & Gas Co. has a duster in the Berea grit at No. 3 on the Cameron S. Clark farm. In Section 6, Jackson Township, Muskingum County, the Pure Oil Co. has a light gasser at a second test on the A N. Holman heirs' farm.

In the southeast quarter of Section 5, Hopewell Township, Muskingum County, the Hopewell Fuel & Gas Co. completed and shot in the Clinton sand a test on the James M. and Ezra Sidle farm. It produced 190 bbls. the first 24 hours.

In the southeast quarter of Section 6, Harrison Township, Perry County, the Gas Producing Co. of Ohio and others completed a duster in the Clinton sand on the Clarence A. Browning farm. In Washington Township, Muskingum County, the Wittmer Oil & Gas Properties have a duster in the Clinton sand on the J. S. Robinson farm.

Vinton County

At Bollings Mills, Section 4, Knox Township, Vinton County, H. C. Farmer and others have a very light pumper in the Berea grit on the C. E. Stout farm. In the same township, Johnson and others have a 2-bbl. pumper in the same formation on the A. Moore farm.

In Section 33, Independence Township, Washington County, J. T. Hall and others completed in the Mitchell sand a second test on the Isaac Feltner farm. It is a duster. In Bethel Township, Section 5, Monroe County, I. C. Crim & Co. have a 5-bbl. pumper in the Squaw sand at a test on the Levi McConnell farm. In Section 11, same township and county, Shaffer & Co. have a duster on the John A. Williams farm. It was drilled through the Squaw sand.

WEST VIRGINIA

There is but one district in West Virginia that is completing better than light pumpers. It is a Berea grit development, on Sugar Creek Run of Reedy Creek, Reedy district, Roane County. The Hope Construction & Refining Co. and the Heck Oil Co. have been operating in that district and getting very fair wells. The Heck Oil Co. has drilled No. 9 on the W. H. Enoch heirs' farm 7 feet into the sand and showing for a 50-bbl. producer.

In Freemans Creek district, Lewis County, the Reserve Gas Co. completed No. 3 on the Flora Camden farm, bailing 10 bbls. a day from the Third sand at a total depth of 1,430 feet.

In Lee district, Calhoun County, F. F. McIntosh completed in the Big Injun sand a gasser on the Hamilton-Hunt farm. In the same district, the Gerwig Oil & Gas Co.'s test on the Ernest Kerby farm is a dry hole. In Center district, the Hope Natural Gas Co.'s No. 7,449 on the C. F. Hosey farm is dry in all formations below the Salt sand. It will be filled up to the Salt sand and tested in that formation.

In Sheridan district, the same company's No. 7,454 on the E. E. Wilson farm is a duster in the Big Injun sand. In Grant district, Ritchie County, G. W. James & Co. have a 2-bbl. pumper at a second test on the H. S. Wilson farm. In the same district, the Mid Penn Oil Co.'s No. 13 on the George T. Layfield farm is a light pumper in the Maxon sand.

One mile west of Ellenboro, Clay district, Ritchie County, Ira Williams & Co. completed a test on the A. J. Glass farm. It is dry in the Big Injun and Squaw sands but has a light gas pressure in the Keener sand. In Jefferson district, Pleasants County, Dinsmoor & Co. have completed No. 13 on the W. H. Staunton farm. It is a duster in the Maxon sand.

Doddridge County

In McClellan district, Doddridge County, on Robinson Run, the Little Five Oil & Gas Co. completed in the Gordon sand a second test on the H. I. Riffee farm. It is a 2-bbl. pumper. On Big Paw Paw Creek, Paw Paw district, Marion County, the Owens Illinois Glass Co. has started to drill on the Larnie Toothman farm.

In Sheridan district, Calhoun County, the Great Elk Oil & Gas Co. completed in the Salt sand No. 32 on the Samuel Bachman farm, a 3-bbl. pumper. In Grant district, Ritchie County, the New York Petroleum Co. has drilled deeper its test on the E. Stephens farm. It is a gasser in the Big Injun sand.

In Liberty district, Marshall County, the Valley Run Oil & Gas Co. has a gasser on the Stern Brothers farm. In Union district, Lincoln County, the Woodyal Gas Co. has a gasser in the Berea grit at a second test on the John A. Lambert farm. In Grant district, Cabell County, the Harshbarger Oil & Gas Co. has a Big Injun sand gasser on the C. Conner farm.

In Chapmanville district, Logan County, the Wiseman Gas Co. has a gasser in the Salt sand at No. 3 on the Merril Coal Co.'s tract. In Clay district, Monongalia County, the Philadelphia Gas Co.'s test on the J. J. Moore farm flowed 20 bbls. the first 24 hours. In Cass district, the Carnegie Natural Gas Co. has a gasser on the C. O. Smith farm. In Center district, Calhoun County, the Hope Natural Gas Co.'s test on the F. B. Foster farm is a gasser in the Big Injun sand.

Clay County

In Henry district, Clay County, the South Penn Oil Co. completed in the Big Injun sand a second test on the M. Skyle farm, a 3-bbl. pumper, 550 feet east of the company's No. 8 on the R. P. Parker farm. In Scott district, Boone County, the United Fuel Gas Co. has a gasser in the Berea grit at No. 4,071 on the Horse Creek Land & Coal Co.'s tract. In McClellan district, Doddridge County, the Little Five Oil & Gas Co. has a 5-bbl. pumper at a second test on the Isaac Riffey farm

In Sheridan district, Calhoun County, L. E. Hughes has a gasser in the Salt sand. In Courthouse district, Lewis County, the Reserve Gas Co.'s No. 950 on the B. F. Camden farm is a gasser in the Salt sand. In Liberty district, Marshall County, the Marshall-Preston Oil Co. has a light show of oil on the Clara Bell farm.

Deep Gasser in Upshur County

In Mead district, Upshur County, the Union Gas Corp. has drilled a test on the G. W. Simons farm through the Benson sand. It is a gasser at a total depth of 4,242 feet. In Union district, Marshall County, the West Virginia Natural Gas Co. has drilled deeper No. 656 on the A. M. Shanks farm. It is a gasser in the Salt sand.

In Clay district, Ritchie County, the McCall Drilling Co.'s test on the Benjamin Maulsby farm is a gasser in the Big Injun sand. In Grant district, Rexroad & Hendershot have a 7-bbl. pumper at No. 3 on the I. L. Jackson farm. It got its production in the Maxon sand. In Harris district, Wood County, the Heck Oil Co. has a duster, showing a little gas on Smith heirs' farm. In Grant district, Ritchie County, C. B. Smith has a gasser in the Big Injun sand at a second test on the Charles R. Bradley farm. In Sinking Creek, DeKalb district, Gilmer County, the Hope Construction & Refining Co. has shot and cleaned out old No. 1 on the T. N. Hardman farm, increasing its production from 1 bbl. a week to 6 bbls. a day.

Calhoun County

In Sheridan district, Calhoun County, the Great Elk Oil & Gas Co. is building a rig on the Samuel Bachman farm. In Murphy district, Ritchie County, Park Bowser has started to drill on the S. C. Phillips farm. In Clay district, the Reno Oil Co. has made a location on the C. M. Cox farm. In Scott district, Boone County, the Owens Bottle & Machine Co. has a rig up on the Sylvester Wheeler heirs' farm. In Chapmanville district, Logan County, the West Virginia Gas Co. has started to drill on the Henry Mitchell farm.

In Barboursville district, Cabell County, Wilson & Mowery are drilling on the Oppenheimer-Wolf farm. In the same district, Ortman & Ships are drilling on the Ezakel Houchin farm. In Geary district, Roane County, Godfrey L. Cabot is drilling on the J. L. Boggs farm. In Smithfield district, I. L. Storts has a rig up on the C. O. Boggs farm. In Reedy district, Wirt County, the Virginia Gas & Oil Co. has a rig up on the Phoebe Woodyard farm. In Reedy district, Roane County, the Heck Oil Co. has made a location on the A. W. Thorn farm.

It is unofficially reported that the Heck Oil Co. has tentatively sold its holdings in Roane and Jackson Counties to a New York City syndicate for $3,000,000. It is understood the sale will be confirmed if the property produces a certain amount of oil within a given time.

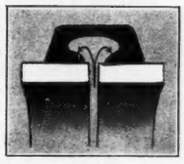
SOUTHWEST PENNSYLVANIA

In Wayne Township, Greene County, the Manufacturers Light & Heat Co. has a Fifth sand gasser at No. 3,450 on the Adam Phillips farm. In the same township, H. D. Freeland & Co. have a gasser in the Bayard sand on the Brant Meighan farm.

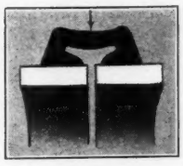
OIL AND PETROLEUM YEAR BOOK

The "Oil and Petroleum Year Book" for 1930 by Walter E. Skinner, just issued, is the twenty-first annual issue. Published annually in May it covers all branches of the petroleum industry. Covering 430 pages it contains particulars of 570 English and foreign companies—producers, refiners, carriers—pipe and steamship—and oil finance companies operating in all parts of the world, including the principal American and foreign companies. Lists are also given of the officials connected with the companies and comprise 2,176 directors, 304 secretaries and 172 consulting engineers, managers, agents, etc., their names and addresses and company connections. The particulars of each company include the directors and other officials, date established, location of property, number of wells, oil production, and description of work in progress, capacity of refineries, etc. The book is published by Walter E. Skinner, 15 Dowgate Hill, Cannon Street, London, E. C. 4. Price 7s.6d. net, or post free 8s.6d.

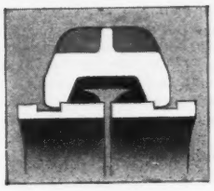
VICTAULIC
COUPLINGS



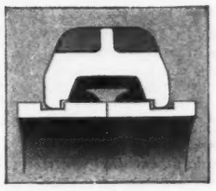
Pressure in the line forces the lip section more tightly against the pipe and strengthens the seal.



Vacuum in the line draws the lip section more tightly against the outside of the pipe and strengthens the seal.



Expansion.



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The most simple and economical coupling to install is the ONLY coupling with INTERNAL COMPRESSION or VACUUM—the greater the pressure, or vacuum, the tighter the joint.

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VICTAULIC
REG. U.S. PAT. OFF.
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Ample stocks of Victaulic Couplings, in all sizes are carried at Tulsa, and Cleveland, Ohio.

Victaulic Couplings and fittings on tank battery hook-up. The pipe was cut and grooved in the field.

Victaulic coupled Naylor spiral welded gas line of a major operating company.

20" water, sand, and gravel line.

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HOUSTON FORT WORTH DENVER

Natural Gas Developments

Omaha Says It Can Manufacture Gas for Less Than Natural

OMAHA, Neb., June 9.—The city of Omaha thinks it can make artificial gas cheaper than it can purchase natural gas under the bids which were submitted to the utilities board last week by the Western Natural Gas Corp., the Missouri-Kansas Pipe Line Co. and the Missouri Valley Pipe Line Co., and which the utilities board has just rejected.

The utilities board, in announcing the rejection of all bids, further announced that it is now costing the municipal gas plant 33 cents per 1,000 feet to manufacture gas.

"Using the lowest bidder's bracket rate of 40 cents per 1,000 feet for domestic purposes," the board asserted, "which would be applicable to a majority of our domestic consumers, the committee is of the opinion that the present natural gas bids are not sufficiently low to warrant present consideration."

When the utilities board announced the rejection of the natural gas bids, it announced a further cut of 7 cents per 1,000 feet on artificial gas, the net gas rate for the average home consumption now being 70 cents per 1,000.

The board said the bids of the three companies just rejected, while lower on domestic gas, are relatively higher for commercial and industrial users than the bids submitted in 1928 and rejected by popular vote.

The natural gas, under the three bids, is not competitive with coal as now priced, the board contended. Coal is 10 per cent lower than in 1928, the board said.

The board, however, did not cut the ground from under its feet altogether. It has left a loophole for the future. A committee is to be appointed to consider any further natural gas proposals that may arise. In refusing to bid under Omaha board specifications, the Cities Service Co. combination submitted a letter stating that it is building a pipe line toward Omaha, anyway, en route to Chicago, and intimating that natural gas will be available to Omaha when this pipe line is completed. The Doherty interests are supplying Kansas City with natural gas at a price which Omaha will not pay and it is not believed that they will offer Omaha a rate lower than the rate given Kansas City.

Omaha will continue manufacturing and using artificial gas rather than pay natural gas producers the price now demanded.

BUYS EASTERN COMPANIES

PITTSBURGH, Pa., June 7.—Formation of a new public utility system, controlling utility properties in New England and southwestern Pennsylvania, is planned by Fred W. Young, president of Atlantic Gas & Electric Corp. and associates. In this connection Mr. Young and Pirnie, Simmons, Inc., have purchased Grinace Oil & Gas Co., Concord Nineveh Co. and certain gas lands in Greene and Washington Counties, Pennsylvania, formerly controlled by H. E. Millikin and others.

BUYS OIL AND GAS LAND

CHARLESTON, W. Va., June 7.—Purchase of 16,000 acres of oil and gas property in the northern West Virginia and southwestern Pennsylvania by Midland Natural Gas Co., for $2,000,000 was announced here today by John Eoghan Kelly of New York, vice president of the company. The announcement said there were 175 oil and gas wells in the acreage.

JERSEY STANDARD GAS COMPANIES EXPECT 20 PER CENT SALES GAIN

Natural gas companies in which Standard Oil Co. of New Jersey is interested will supply approximately 175,000,000,000 feet of natural gas in 1930, according to estimate of Carl H. Pforzheimer & Co. This compares with 145,069,171,000 feet supplied in 1929 and represents an increase of 29,930,829,000 feet or about 20.6 per cent. Of the 1930 sales, it is estimated that the eastern companies will supply 104,000,000,000 feet and the western companies 71,000,000,000 feet, against 103,754,400,000 feet by the eastern and 41,314,771,000 feet by the western companies in 1929.

The principal eastern natural gas companies controlled by Standard Oil Co. of New Jersey with percentage of interest are Hope Natural Gas Co. 100 per cent, Peoples Natural Gas Co. 100 per cent, and East Ohio Gas Co. 99.7 per cent. Principal western companies are Colorado Interstate Gas Co. 42.5 per cent, Interstate Natural Gas Co. 53.9 per cent, and Mississippi River Fuel Corp. 22.5 per cent.

In its eastern natural gas operations, Standard of New Jersey will supply in 1930 approximately 665,000 customers and will operate 16,000 miles of gas pipe line.

The following table shows natural gas companies in which Standard Oil of New Jersey is interested, with approximate percentage of interest in each:

Company—	Sphere of operations	Capitalization— No. shares	Par	S. O. N.J. interest
Hope Natural Gas Co.	West Virginia	279,693	$100	100%
Peoples Natural Gas Co.	Pennsylvania	132,000	100	100%
Columbia Natural Gas Co.*	Pennsylvania	90,000	50	(*)
East Ohio Gas Co. (common)	Ohio	285,000	100	99.7%
East Ohio Gas Co. (preferred)	Ohio	100,000	100	99.7%
Reserve Gas Co.†	West Virginia	40,000	100	50%
Connecting Gas Co.	Ohio	13,000	35	50%
River Gas Co.	Ohio	3,600	100	100%
Colorado Interstate Gas Co.	Colorado	1,250,000	None	42.5%
Interstate Natural Gas Co.	Louisiana	952,953	None	53.9%
Mississippi River Fuel Corp.	Missouri	652,000	None	22.5%
Hope Producing Co.	Louisiana	34,600	None	100%

*Controlled by Peoples Natural Gas Co. †Controlled by Hope Natural Gas Co.

The following table shows amount of natural gas supplied by the natural gas companies in which Standard Oil Co. of New Jersey is interested, by years since 1925:

	Cubic feet		Cubic feet
Year 1930 (estimated)	175,000,000,000	Year 1927	120,663,043,000
Year 1929	145,069,171,000	Year 1926	102,540,102,000
Year 1928	133,468,739,000	Year 1925	89,062,758,000

The following table shows statistics of the eastern natural gas companies in which Standard of New Jersey is interested:

Year—	Consumers supplied— Domestic	Industrial	Others	Total	Acres under lease	Pipe line mileage	Gas mark't'd M. cu. ft.
1930 (estimated)	662,000	1,100	1,900	665,000	2,850,000	16,000	104,000,000
1929	656,443	1,059	1,891	659,393	2,838,337	15,446	103,754,400
1928	637,010	917	1,913	639,840	2,482,604	15,083	102,307,536
1927	618,436	906	1,945	621,287	2,673,915	14,618	97,825,124
1926	604,002	906	2,002	606,910	.....	.....	102,540,102
1925	563,254	832	1,753	565,839	.....	.....	89,062,758

UNITED GAS SALES

An increase of 25 and 18 per cent in the gas sales of the United Gas Co. and its subsidiary, the Magnolia Gas Co., during the first quarter of the present year is announced. This compared with a decrease of 4.4 per cent in the total natural gas sales of the country during this period.

Sales of United Gas Co. for the first three months of the present year totaled 14,371,442,000 feet, compared with 11,424,243,000 feet in the corresponding period last year, an increase of 2,947,199,000 feet. This gain reflects the initial operations of the new line constructed by the company to Monterrey, Mexico, and the normal increase in the domestic and industrial consumption of the 58 cities and towns of Texas served by the company.

Natural gas sales of Magnolia Gas Co. in the recent period totaled 9,877,561,000 feet, an increase of 1,515,073,000 feet over the corresponding last year period. This United Gas subsidiary serves 11 Texas towns and 14 major industries, principally oil refineries.

TO BUY AMERE COMPANY

CHARLESTON, W. Va., June 9.—H. A. Wallace, president of the United Fuel Gas Co., says negotiations between the Columbia Gas & Electric Corp. of New York and the Amere Gas Utilities Co. of Beckley, for the purchase of the Amere company's properties, would be closed shortly.

COLUMBIA EXPANSION

NEW YORK, June 9.—The Columbia Gas & Electric Corp. has applied to the Public Service Commission for authority to purchase all of the stock of the Empire Gas & Fuel Co., Ltd., and all of the stock and bonds of the Hornell Gas Light Co. and all of the bonds of the Canisteo Gas Co., consisting of 10,000 shares of Empire Gas & Fuel Co., Ltd., of the par value of $100, 750 shares Hornell Gas Light Co., par value $100, bonds of the latter company aggregating $109,000 and bonds of the Canisteo Gas Co. aggregating $22,000.

MISSOURI-KANSAS OFFICES

Missouri-Kansas Pipe Line Co. has moved its operating division offices to new and larger quarters in the Fairfax Building, 101 West Eleventh Street, Kansas City, Mo., according to announcement by its president, Frank P. Parish. Operating offices were formerly in the Dwight Building, Kansas City. Executive offices of Missouri-Kansas are maintained in the Otis Building, 10 South LaSalle Street, Chicago.

ANOTHER GASSER NEAR WATKINS

WATKINS GLEN, N. Y., June 7.—The Belmont Quadrangle Drilling Co., of Bradford, Pa., has completed its third gas well in Schuyler County, No. 1 Charles Losey, estimated as a 2,000,000-foot gas producer. The well is 2,000 feet distant from the company's second well which was completed on the Altay farm.

UNITED GAS CORPORATION MERGER IS CONSUMMATED

NEW YORK, June 7.—Consummation of the plan whereby the United Gas Co., the Louisiana Gas & Fuel Co., and the Pelmer Corp. of Louisiana, large natural gas producers, have passed into the control of Electric Power & Light through the formation of the new United Gas Corp. was announced with the filing in Delaware of an amendment to the certificate of incorporation of this new company.

At the same time it was announced by Electric Bond & Share, which supervises Electric Power & Light, that holders of undeposited securities can exchange their holdings until June 25. Details of the organization of the new company were also made public yesterday.

Electric Power & Light Corp. owns in the aggregate a majority of all of the voting stocks and option warrants, including substantially all of the $7 second preferred stock of the new corporation. A share of the $7 second preferred stock, accompanied by three option warrants, may be converted at any time into three shares of the common stock of the new corporation. The Moody-Seagraves and G. E. Barrett & Co. interests, through exchanges of securities and by purchases, have acquired a substantial interest in the common stock and option warrants of the new corporation. Electric Bond & Share Co., in addition to its 30 per cent interest in the common stock of Electric Power & Light Corp. by exchange under the plan or by purchase, has acquired a substantial interest in the common stock of the new corporation.

Electric Power & Light Corp. has delivered or caused to be delivered to United Gas Corp. 100 per cent of the securities and $3,468,000 of the loans payable of Louisiana Gas & Fuel Co. Electric Power & Light Corp. has in addition paid into the treasury of United Gas Corp. $30,000,000 in cash and has subscribed for 300,000 units of junior securities of United Gas Corp. at $100 per unit, a total subscription of $30,000,000. These units are issued in the form of 20 per cent paid allotment certificates. The remaining 80 per cent of the subscription price may be called for payment, in whole or in part, by United Gas Corp. at any time on 30 days' notice, but the holders of the allotment certificates do not have the right to make additional payments unless and until they are so called.

United Gas Corp. has an authorized capitalization of 22,000,000 shares without par value, consisting of 1,000,000 shares of preferred stock, issuable in series, 1,000,000 shares of $7 second preferred stock and 20,000,000 shares of common stock.

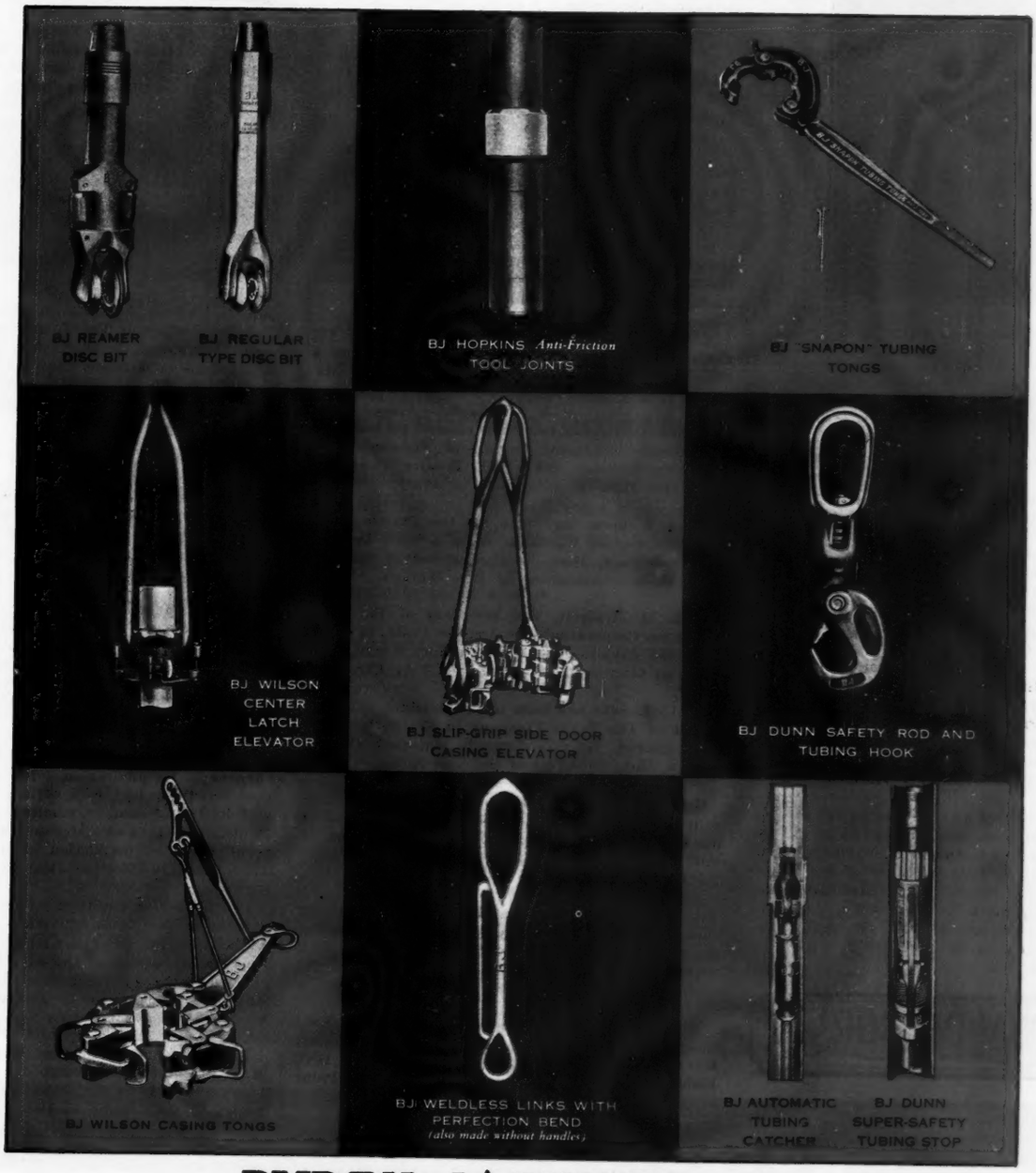
Officers of United Gas Corp. include C. Z. Mitchell, chairman of the board; C. E. Groesback and O. R. Seagraves, vice chairman; O. R. Seagraves, chairman of the executive committee; Ralph B. Feagin, president; H. C. Abell, S. R. Inch, O. H. Simonds, N. C. McGowen, E. W. Hill and L. H. Parkhurst, vice presidents.

The board of directors include H. C. Abell, Charles M. Clark, H. C. Couch, E. G. Diefenbach, Ralph B. Feagin, Charles V. Graham, C. E. Groesback, Charles Hayden, S. R. Inch, Hunter S. Marston, N. C. McGowen, C. Z. Mitchell, O. R. Seagraves, O. H. Simonds and E. B. Tracy.

UNITED CARBON EXPANSION

Directors of United Carbon will call a special meeting of stockholders within 30 days to vote on increasing the no-par common stock from 400,000 to 800,000 shares.

BJ *Quality* TOOLS


BJ REAMER DISC BIT
BJ REGULAR TYPE DISC BIT
BJ HOPKINS Anti-Friction TOOL JOINTS
BJ "SNAPON" TUBING TONGS
BJ WILSON CENTER LATCH ELEVATOR
BJ SLIP-GRIP SIDE DOOR CASING ELEVATOR
BJ DUNN SAFETY ROD AND TUBING HOOK
BJ WILSON CASING TONGS
BJ WELDLESS LINKS WITH PERFECTION BEND (also made without handles)
BJ AUTOMATIC TUBING CATCHER
BJ DUNN SUPER-SAFETY TUBING STOP

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MEN KNOWN IN OILDOM

William Alton Jones

William Alton Jones, still in his thirties and first vice president of the Cities Service Company, is one of the youngest executives of this billion dollar organization which plays a leading role in the natural gas industry. He has been chairman of the executive committee of Henry L. Doherty & Company since 1925.

Mr. Jones' interests in the natural gas industry extend to all of the gas subsidiaries of the Cities Service Company. He is vice president and director of the Cities Service Gas Company, Arkansas Natural Gas Corporation and the Cities Service Gas Pipe Line Company. In addition he is a director in the Kansas City Gas Company, St. Joseph Gas Company, the Capital Gas & Electric Company and Gas Service Company.

Going to New York in 1921 from Joplin, Mo., where he was treasurer of the Empire District Electric Company, Mr. Jones became assistant to the late Frank Frueauff, chief executive of Cities Service Company under Mr. Doherty. Upon the death of Mr. Frueauff in 1922 he was assigned to some of the duties previously performed by that executive.

Mr. Jones is regarded as an authority on gas and public utility problems, subjects in which he became interested when a student at Vanderbilt University in Nashville, Tenn. Because of his activities in the National Electric Light Association and the service he has given in its councils, Mr. Jones was elected a vice president of the association two years ago, and at the June, 1929, convention was elected first vice president.

PERSONAL PARAGRAPHS

Edgard Hodgson, geologist, of Victoria, British Columbia, is in Calgary, Alberta, in connection with oil development.

* * *

M. Frank Yount, president of the Yount Lee Oil Company, Beaumont, Tex., has been appointed a member of the Beaumont Port Commission.

* * *

Mr. and Mrs. Bloss Sutherland and children, Margaret and Bloss, of Borneo, are spending three months with relatives in Oil Springs, Ontario.

* * *

Ben Taylor, Houston, Tex., oil field sales manager of Peden Iron & Steel Company, is spending his summer vacation in Tennessee and Missouri.

* * *

Floyd Kiser, of the Parkersburg Rig & Reel Company, has been transferred to Calgary, Alberta, from Casper, Wyo. He will act as field man for the Parkersburg organization at Calgary.

Mrs. Rose L. Kennedy, of Dallas, Tex., recently arrived in Calgary, where she will be associated with the Adanac Oil & Gas Company.

* * *

C. C. Clark, formerly district geologist for the Shell Petroleum Corporation, at Shreveport, La., has joined the Louisiana Gas & Fuel Company's staff.

* * *

J. H. Bannister, Houston, Tex., representative of the Petroleum Equipment Company, has been spending several days at the company's factory in Fort Worth, Tex.

* * *

J. J. Theisen, of St. Joseph, Mich., was elected a new director of the Mid-Continent Petroleum Corporation at the company's annual meeting. All other directors were re-elected.

* * *

W. J. Cheley, of Tulsa, B. F. Bleecker of Boulder, Colo., and C. G. Stratton, of Denver, were in Casper, Wyo., in conference with E. J. Sullivan of the E. T. Williams Oil Company.

* * *

F. L. Cotterman, manager of the Houston, Tex., office of the Chicago Pneumatic Tool Company, has completed a round of the various oil centers of southern Texas and Louisiana.

* * *

Roger Dennison, geologist with the Amerada Petroleum Corporation at Fort Worth, Tex., addressed the San Antonio chapter of the American Petroleum Institute Division of Production.

* * *

A. J. Penick, Houston, Tex., president of the Oil Center Tool Company, Inc., has returned from a trip which took him through oil fields of Oklahoma, West Texas and New Mexico.

* * *

Donald C. Barton has been elected president of the recently organized Society of Economic Geophysicists, Houston, Tex.; E. E. Rosaire, vice president, and John F. Weinzierl, secretary.

* * *

R. D. Wallace, land man for the Prairie Oil & Gas Company of Wyoming, is on a short business trip to Billings, Mont., in the interest of his company. He is accompanied by Mrs. Wallace.

* * *

Rush M. Blodgett, vice president of the Getty Petroleum Corporation, Los Angeles, Calif., is spending a few days at the company's Fort Worth, Tex., office on his return trip from New York City.

* * *

W. C. Kneale has been made assistant chief geologist of The Texas Company in the Fort Worth, Tex., district. He was formerly stationed at Roswell, N. Mex., in charge of the New Mexico district.

* * *

Guy Shirley, land man for the Dixie Oil Company, San Angelo, Tex., is spending his vacation at his home in Atlanta, Ga. His mother met him at Fort Worth, and accompanied him on the homeward trip.

* * *

J. D. Henry, superintendent of the Grass Creek Field in northern Wyoming for the Midwest Refining Company, was in Casper, Wyo., conferring with George H. Jacques, general superintendent of the company.

* * *

Reed Meehan, formerly manager of the petroleum division of the Cook Paint & Varnish Company, Kansas City, Mo., is now associated with the Hill, Hubbell & Company Division of the General Paint Corporation.

* * *

E. R. Rich, vice president of the General Petroleum Corporation, California subsidiary of the Standard Oil Company of New York, was elected to the board of the parent company at the regular directors' meeting.

* * *

W. P. McKinley, president of Wurtzilite Sales Corporation, Chicago, accompanied by W. C. Hughes, engineer for his company, is now on a business trip through the Mid-Continent and Gulf Coast area in the interest of his company.

* * *

Raymond A. Moore, a former Chickasha, Okla., geologist, who went to Mississippi as resident geologist for the Louisiana Oil Refining Company, is now president of the Interior Oil Company in Mississippi which is drilling a deep test on the Jackson anticline near the city of Jackson.

P. W. Hennessy, general superintendent for the Illinois Pipe Line Company, and C. D. Mounts, his assistant in charge of the Big Muddy Field, have recently returned to their offices at Casper, Wyo., from a trip into South Dakota.

* * *

John McFadyen, vice president and general manager of the western division for the Ohio Oil Company, and William Holland, superintendent of operations for the western division, have been visiting the company's home offices in Findlay, Ohio.

* * *

Grady Kirby, formerly of San Antonio, has moved to Houston, Tex., where he has assumed his new duties as chief geologist of the Sinclair Oil & Gas Company in the Gulf Coast. Mr. Kirby has been widely known among geologists in the San Antonio district.

* * *

Harry M. Runkel, president, and Richard B. Bloss, vice president and general manager of the International Derrick & Equipment Company of Columbus, Ohio, completed a Mid-Continent and Gulf Coast business trip last week and returned home via Tulsa.

* * *

Charles F. Klop, who has been manager of the Waggoner Refining Company at Electra, Tex., will sever his connection with the company effective June 1. He has not announced his intentions for the future but will probably give all his time to his own interests.

* * *

J. O. Nichols, formerly in charge of the Midland, Tex., office of The Texas Company, has been made assistant to D. O. Bayless who is in charge of the land department for The Texas Company, Fort Worth, Tex. R. E. Witty, who has been scouting out of Pecos City, will fill the vacancy at Midland.

* * *

Governor Frank C. Emerson of Wyoming has appointed a committee of citizens representing the more important interests and industries to study taxation problems as an advisory committee on valuations. Former Governor B. B. Brooks and Mark Danford were appointed as representatives of the oil industry.

* * *

Mr. and Mrs. Ernest Marquardt, who formerly lived in Casper, Wyo., while Mr. Marquardt was vice president and chief geologist for New York Oil Company, and who have been making their home in Los Angeles, Calif., are now residents of San Diego where Mr. Marquardt has recently accepted a position.

* * *

Independent Oil & Gas Company announces changes in its production department. A. J. Lewis, now superintendent with offices at Eureka, Kans., will be transferred to Seminole, Okla. Charles A. Daniels, of Midland, Tex., will be installed as superintendent of production in Kansas at Wichita. The change is effective June 15.

* * *

Ben F. Horton has been promoted land man from a scout in the Kansas division of the Sinclair Oil & Gas Company. For the past three years he has been an oil scout for the Sinclair Crude Oil Purchasing Company with headquarters in Wichita, Kans. He is succeeded by Kenneth B. Absher, who has been transferred from Eldorado to Wichita.

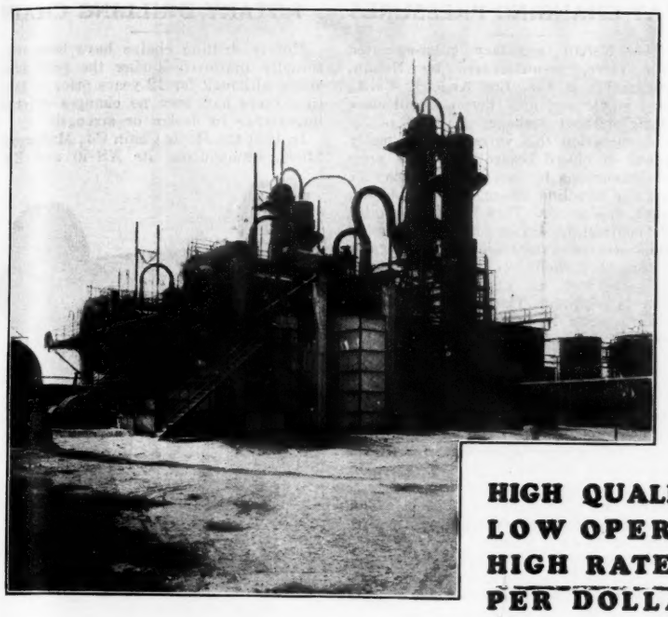
* * *

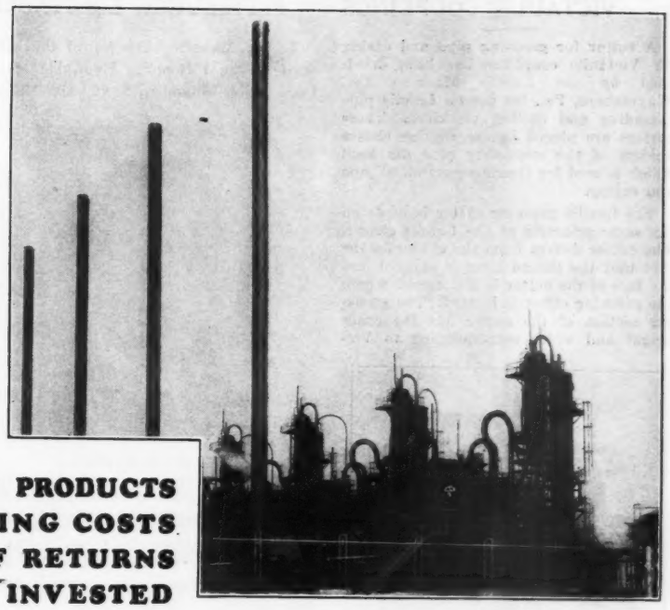
Following their marriage May 24 at St. Louis, Mo., Mr. and Mrs. George G. Oberfell left on a honeymoon trip to the Hawaiian Islands. They will return to their home in Detroit next month. Mrs. Oberfell was formerly Miss Lucile Wimmer of Bartlesville, Okla. Mr. Oberfell is head of the research department of the Phillips Petroleum Company and president of the Philfuels Company, a subsidiary organization, with headquarters in Detroit, Mich.

* * *

Dr. W. T. Thom, Jr., of Princeton University, has resigned from the United States Geological Survey, and will divide the summer between university research and field studies contributing to a research project sponsored by the American Association of Petroleum Geologists. This latter project deals with the regional structure of the Dakota sandstone in the northern Great Plains and Foothills regions, and is being pursued because of the light it may shed upon the causes and results of mountain building.

JENKINS CRACKING PROCESS





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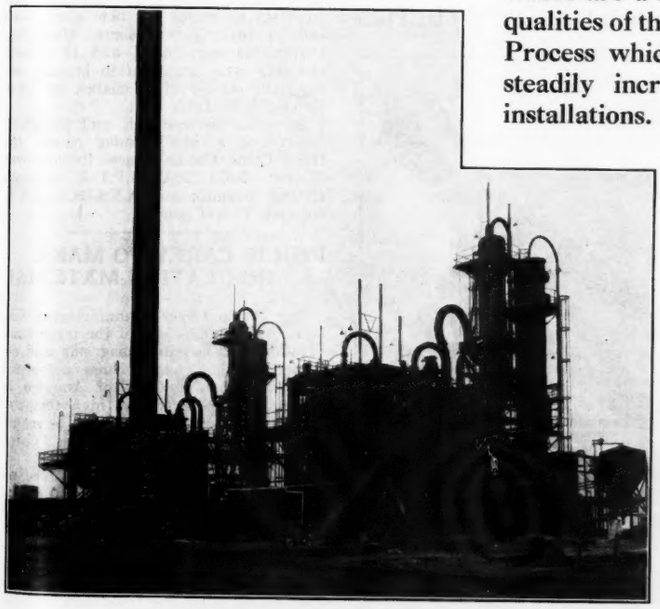
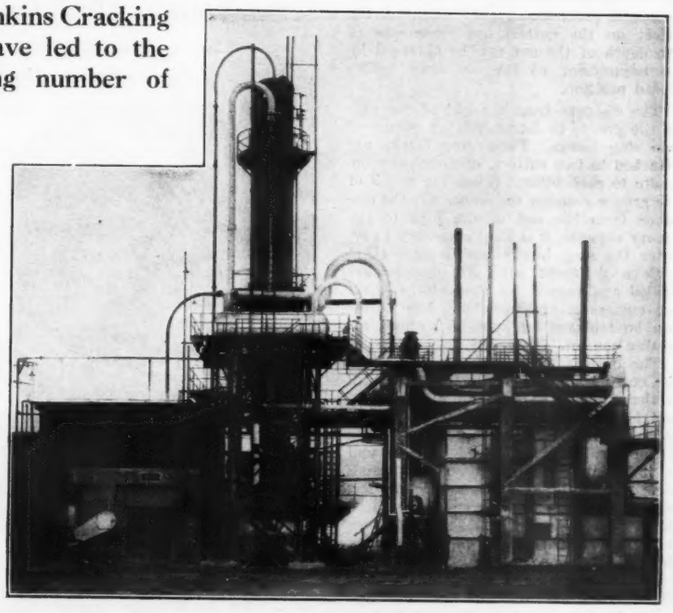
These are a few of the inherent qualities of the Jenkins Cracking Process which have led to the steadily increasing number of installations.





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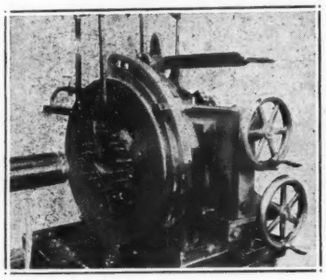
EQUIPMENT AND SUPPLIES

GROOVING CUTTER FOR VICTAULIC COUPLINGS

A cutter for grooving pipe and casing for Victaulic couplings has been developed by the Landis Machine Co., Waynesboro, Pa., for use on Landis pipe threading and cutting machines. These cutters are placed in the regular chaser holders of the stationary pipe die head which is used for threading standard pipe and casing.

The Landis grooving cutter is made on the same principle as the Landis chaser. The cutter differs from the chaser in the fact that the thread form is omitted and the face of the cutter is flat except where the grooving offset is located. The grooving section of the cutter has the exact height and width corresponding to Victaulic standard grooves. The depth of the groove is controlled by the height of the offset on the cutter, but variations of the depth of the cut can be obtained by an adjustment of the die head in its closed position.



The distance from the end of the pipe to the groove is determined by means of two stop blocks. These stop blocks are attached to two cutters, diametrically opposite to each other. When the width of the groove remains the same, but the distance from the end of the pipe to the groove changes, it is only necessary to remove the stop blocks and replace them with a different set. All cutters are drilled and tapped for stop blocks, making cutters interchangeable. Any cutter can be replaced by another without affecting the set.

The cutters when dull are ground on the cutting end only and moved forward in their holders to compensate for loss of metal due to grinding. As with Landis chasers, the cutting edge of the grooving cutter is always on cutting center, and as it is entirely renewed at each grinding, original accuracy is obtained. The cutters are made of high speed steel and the wear is slight. In addition, the cutters are long, permitting many grindings, thus insuring long cutter life.

To generate the groove, using these grooving cutters in a Landis pipe machine, the head first is adjusted to pipe size. The die head in the open position is advanced to the work by means of the carriage. When the pipe makes contact against the stop blocks the cutters are located in the proper position for making the groove. The operator, by closing the head, feeds the cutters into the pipe, and, when the head has reached its closed position, the groove is completed. The groove thus formed is smooth and free from burrs on the edge of the groove. In addition, any high spot or roughness of the pipe is also removed.

The groove thus obtained has uniform depth and is well within the limits of accuracy required with the use of a Victaulic coupling. Landis grooving cutters and stop blocks for use on Landis pipe threading and cutting machines can be obtained for sizes of pipe and casing ranging from 2½ inches to 20 inches in diameter.

JOINS SALES STAFF OF PITTSBURGH EQUITABLE

L. W. Mahaffey has joined the sales staff of the Pittsburgh Equitable Meter Co.'s office, Columbia, S. C. Mr. Mahaffey was graduated in civil engineering from the University of South Carolina. For several years he was assistant testing engineer in the South Carolina highway laboratory. His territory will include Alabama and part of Florida.

L. W. Mahaffey

VALVE EASILY OPERATED AT CHANGING PRESSURES

The Neilan auxiliary pilot-operated lever valve, manufactured by Neilan, Schumacher & Co., Los Angeles, Calif., has a single seat and therefore will close tightly without leakage. Because of its pilot operation this valve may be easily opened or closed regardless of the pressure variations in the valve. It may be used for handling steam, hot or cold oil, water, gas or air. This valve is suitable for controlling inflow and outflow of tanks and reservoirs and on feed water heaters, hot wells, condensation plants and wherever an auxiliary controlled valve is required. The pilot operation is said to make it particularly suited for use with solenoids, electric time switches or thermostatic controls.

This valve is extremely sensitive and at the same time operates smoothly and quickly with a small external force on the lever regardless of the pipe line pressure. Only a slight movement of the lever is necessary to obtain full valve travel. The swivel yoke may be turned to any desired position for convenience. This type of valve is not suitable for use with pressure under 5 pounds.

The valve is so constructed that the composition valve disc and all other working parts may be readily changed without removing the valve from the line.

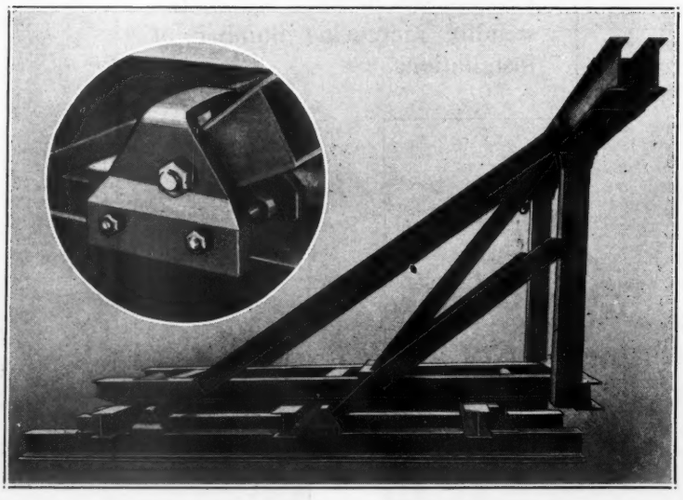
HOWE ANNOUNCES STRONG ROTARY DRILLING CHAIN

Rotary drilling chains have been continually improved during the past nine years, although for 12 years prior to that time there had been no changes of vital importance in design or strength.

In 1921 the Howe Chain Co., Muskegon, Mich., brought out its XS-40 and XS-1240 chains. These chains started manufacturers to search for new alloy steels and to investigate designs. Many improvements were made, and 18 months ago this same organization brought out especially strong rotary chains, its XXS-40 and XXS-1240.

After further research, and the development of a new tubular cotter, the Howe Chain Co. announces its improved chains: XXS-1240, A.P.I.-4, strength 150,000 pounds; and XXS-40, A.P.I.-3, strength 70,000 pounds.

STEEL FOUNDATION REDUCES DRILLING DIFFICULTIES



This side view of the steel foundation shows how it is braced and how the Star adjustable clamp and brace can be adjusted to any desired angle. The Star clamp is V-shaped on each side, with teeth projecting at the point of contact with the foundation sill. When the bolts are tightened this automatically locks the clamp to the sill, preventing slipping or working loose.

Solid anchorage, with resultant reduction of vibration and elimination of time losses caused by stopping to tighten loose keys, is achieved by the steel foundation for steam drilling engines, according to the manufacturer of this new piece of oil field equipment, the Steel Foundation Co., Oklahoma City, Okla.

The foundations, made for both single and twin engines, are designed to make drilling operations easier. They are of steel throughout and cannot become water-logged or oil-soaked. They are said to be easily and quickly assembled by two men. The sills are interchangeable and the skids to which the engine is bolted are light and convenient, reducing the time and expense involved in moving from one location to another. The foundation weighs about 8,000 pounds.

All the sills are made of 10"x10" beams 50 or 60 pounds per foot and are held in place by seven-eighths inch bolts at each cross section. All nuts are made secure with lock washers. There are no keys to come loose to allow the engine to shift on the foundation.

Greater rigidity is obtained where dirt is thrown between and around the sills of the steel foundation. Dirt packs against the bottom mud flanges which are ⅜"x16" welded to the bottom of mud sills. These flanges help to hold the entire foundation in place.

The headboards are made to fit snugly on the derrick legs in such a way that they can slip neither up, down nor sidewise. They are bolted to the rig. The jack posts fit under and through the headboards. Braces are made of 8"x8" H-beams and are of different lengths to in different types of drawworks.

PHILIP CAREY TO MAKE INSULATION MATERIAL

The Philip Carey Manufacturing Co., of Lockland, Ohio, one of the large manufacturers of asbestos, magnesia and asphalt products, has become associated with the Aluminum Co. of America in the production of a new high temperature heat insulating material to be manufactured under the trade name "Carey Aluminite."

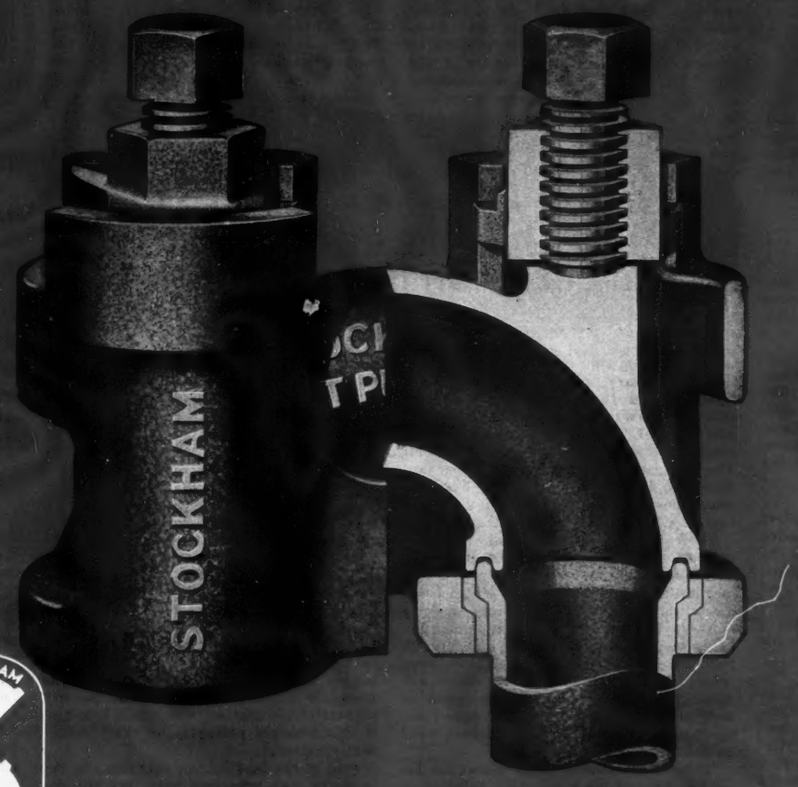
For the last two years the Carey research organization, the Mellon Institute of the University of Pittsburgh, and the research department of the Aluminum Co. of America have been co-operating in the development of a commercial high temperature heat insulating material derived from bauxite, the ore from which aluminum metal is produced.

These research efforts have proved so successful that the Philip Carey company is planning the erection of a $500,000 manufacturing plant in East St. Louis, Ill., immediately adjacent to the Aluminum company's ore plant, from which processed material will be delivered to the new Carey plant and there manufactured into Carey Aluminite insulating blocks, bricks and powder.

The new Aluminite insulation is designed for use in connection with electric furnaces, firebrick boiler settings, heat treating furnaces, glass furnaces, regenerator chambers in iron, steel and other industries, and similar structures where internal temperatures range from 1,800° F. to 2,600° F.

The commercial value of the new Aluminite insulation lies in its ability to resist the disintegrating effects of high temperatures.

STOCKHAM
FANTZ-TYPE
RETURN BEND
facilitates tube cleaning and renewal



STOCKHAM FITTINGS

There is a **STOCKHAM FITTING** *for Every Oil Requirement*
Electric Cast Steel
Cast Iron
Malleable

Designed especially to reduce the time the unit must be out of service for replacement or cleaning of the tubes, the Stockham Fantz-Type Return Bend insures both economy and safety in cracking still operation.

Our Petroleum Division believes you will readily appreciate the many outstanding features of this Stockham Product. Write for additional details.

STOCKHAM PIPE & FITTINGS COMPANY
BIRMINGHAM, ALABAMA

This construction covered by United States Patent No. 1,752,331. This device is also covered by foreign patents.

EQUIPMENT AND SUPPLIES

SPERRY-SUN MARKETING WELL SURVEY DEVICES

A new arrival in the field of oil well service is the Sperry-Sun Well Surveying Co. with headquarters at 1608 Walnut Street, Philadelphia, Pa. This concern was recently incorporated under the laws of Delaware with the following officers: J. Edgar Pew, president; G. L. Kothny, vice president and general manager, and Frank Cross, secretary and treasurer.

Two devices for the surveying of wells for deviation from the vertical are being manufactured and marketed by the company. The Surwel is a gyroscopic clinograph which not only shows the inclination of the hole but pictures the degree and direction of that inclination. It is operated on a service basis and the company plans to have service crews at strategic spots within overnight runs to all fields.

The other instrument is called the Syfo clinograph, for the daily recording of vertical deviation in drilling. Among its reported advantages are the elimination of dangerous acids, quickness of operation and the fact that the records, being made on paper, may be quickly read and permanently filed. The Syfo is leased to operators.

BUSINESS NOTES

W. E. Gibson, Pittsburgh, Pa., general sales manager of the South Chester Tube Co., is making a tour of the Mid-Continent and Gulf Coast fields.

Orders received by the General Electric Co. for the first quarter of 1930 amounted to $90,397,731, compared with $101,365,208 for the corresponding three months of last year, Gerard Swope, president of the company, announced at the annual meeting of stockholders.

The Baash-Ross Tool Co., Los Angeles, Calif., has been named as the exclusive distributor in southern California for the drilling lines and other wire rope products of the Hazard Wire Rope Co., of Wilkes-Barre, Pa. Stocks will be carried at Baash-Ross shops in Los Angeles, Brea, Long Beach, Ventura and Taft for immediate delivery.

Eldridge V. Weaver has been appointed sales representative for Neilan, Schumacher & Co. regulating and control equipment for the north Texas territory with headquarters in Dallas. Roy O. Campbell, who formerly represented the company in this territory, has been made Mid-Continent factory representative.

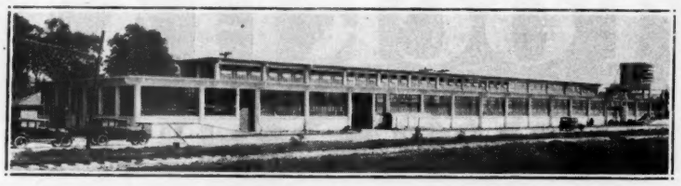
Page Golsan, recently vice president of the Great Western Portland Cement Co. of Kansas City, Mo., has been appointed manager of the new business department of the engineering organization of Ford, Bacon & Davis, New York.

James C. Elverson has been appointed general manager of the American Viscosimeter Co., Inc., New York, according to Joseph Leopold, president. Mr. Elverson has been associated with the Motometer Co., New York, since 1920, as general manager of the industrial division.

D. S. Rettig, for several years Canadian representative of the Butler Manufacturing Co., Kansas City and Minneapolis, has been placed in charge of the Butler business in Ohio and territory in the states adjacent.

J. H. McEvoy, Jr., proprietor of the McEvoy Screen Pipe Co. and president of the J. H. McEvoy Co. of Houston, Tex., has returned to his home office after a business visit to the California fields.

NEW FACTORY FOR LAYNE & BOWLER CO. IN HOUSTON



Completion by the Layne & Bowler Co., Houston, Tex., of a new factory, built at a reported cost of $500,000, including new machinery and equipment, marks an important step in the life of this pioneer oil-field equipment organization. In 1904 Layne & Woodburn, in a partnership opened a small shop in Houston for the manufacture of the Keystone wire-wrapped screen under patents granted to Mahlon E. Layne, active founder of the firm. The screen proved so successful in coping with the problems presented by the fine, loose sand encountered in coastal oil fields that a larger shop soon was needed. The firm moved to bigger quarters and the partnership firm Layne & Bowler was formed to handle the sale of the screen. In 1907 the Layne & Bowler Co. was incorporated, taking over the existing partnerships and expanding the business.

A close study of the different coastal fields was made as these fields came in, with a view of making the Keystone wire wrapped screen even more nearly perfect. This study of various fields enabled the company to design and manufacture types of packers, set shoes, back-pressure valves, etc., to meet the exacting requirements of these areas. The result is that Layne & Bowler products are provided for finishing all of the oil well below the casing.

CHEMICAL MIXTURE RESTORES LOST CIRCULATION IN ROTARY DRILLING

By F. Daly Sullivan
President, the Sullivan Co.

The day has gone when loss of circulation in rotary drilling is considered lightly. Now that drilling has extended into high-pressure gas areas with greater loss of mud, loss of circulation has become a serious problem with operators. The frequency of fires within the last year and a half caused by blow-outs are sometimes attributable to thin mud and loss of circulation.

There has been a great deal of experimentation with materials to plug fissures, seal porous strata and prevent loss of circulation. Waste manure, lead wool, straw, sawdust, burlap, bullrope and almost anything which would expand upon being moistened and could be got through the pumps into the fissure have been tried. These makeshifts have served admirably at times, but again they resulted only in expense and loss of precious time. Carloads of cement have often been used to obtain relief.

These conditions brought about an insistent demand for a scientific solution to the problem and out of the Sullivan Co. laboratory has come a method which has been producing satisfactory and dependable results. The compound known as Fissurseal has had a remarkable record in overcoming these troubles. Fissureseal is a combination of three ingredients, one powder and two liquids, added to the slush separately, either in the pit, mixing box, through the drill pipe or open hole. The mixture of liquids and powder congeal the mud into a substance so heavy it remains in the walls. At the same time it is highly lubricated and will not stick to the pipe. The mixture of mud and chemicals enters the wall, plastering them off. It is a trade-marked product, produced by the Sullivan Co. of Memphis and Montreal, fully protected by patents pending.

Many times the Fissureseal principle has been evoked to overcome some of the most serious conditions known to veteran oil men. One well lost circulation four times. Huge quantities of materials were pumped into the hole over several weeks' time without success. Finally Fissureseal was suggested and in desperation the suggestion was accepted. Circulation was promptly regained with its use. Shortly thereafter circulation was again lost and it was restored promptly by the Fissureseal treatment.

One of the best known operators in the industry was wrestling with lost circulation. Promptly upon the use of the Fissureseal treatment drilling was resumed. In this same instance caving and shale heaving were a constant source of worry in the landing of the 6¼-inch casing at a depth of 6,000 feet. The string was pulled, laid down and the mud treated the Fissureseal way. After circulating through the hole for sometime the pipe

(Continued on Page 167)

FOR PRECISE METAL TESTS

Carrying out its policy of specialization in the manufacture of balls and seats on a scientific basis, the Petroleum Equipment Co. of Texas, Inc., Fort Worth, has installed a complete laboratory to conduct exacting tests on metals and their application. Included in this laboratory is a Rockwell hardness tester, which permits tests for attaining the desired hardness of metals without getting them too hard, which results in broken balls and seats, or too soft, which results in balls and seats washing. Complete corrosion tests by acids can be made to determine the fitness of a particular metal to a corrosive application. In addition to standard laboratory equipment, special machinery has been developed which permits the ball and seat, as well as valve, to be subjected to pounding conditions such as it meets in the bottom of the well. Every operation in the manufacture of balls and seats is controlled in the plant. Electric furnaces, with automatic pyrometer control, insure uniformity. Grinding is on a precision basis, with the latest types of equipment.

Link-Belt Co.'s Baltimore, Md., office is now in the Lexington Building. H. D. Alexander is in charge, and Harry E. Reese handles the sales of Link-Belt positive power transmission equipment.

MEN KNOWN *in* THE EQUIPMENT FIELD

John G. Benedict, Waynesboro, Pa., recently chosen president of the National Metal Trades Association, is general manager and treasurer of the Landis Machine Co., Waynesboro. His other business connections include directorships in the South Penn Power Co., C. G. and W. Street Railway Co. and the Waynesboro Manufacturers Association, all of Waynesboro. He is president of the First National Bank and Trust Co., and vice

J. G. Benedict

president of the Frick Co., both of Waynesboro, and president of the Landis Machine Co. of Canada, Ltd., Welland, Ont.

Mr. Benedict's industrial career began in 1900 with the Landis Tool Co., Waynesboro, where a year was devoted to installing the first time and cost system in that plant. Service with the Fred Frick Clock Co. and the Geiser Manufacturing, both Waynesboro. On January 1, 1904, he became secretary and treasurer of the Landis Machine Co., Waynesboro, which was being organized to develop a thread-cutting die head and machine employing the Landis long-life tangential chaser. The company now has two plants in Waynesboro and one in Welland, Ont.

Mr. Benedict is a member of the American Society of Mechanical Engineers, Waynesboro Country Club and the Fountain Head Country Club, the last named of Hagerstown, Md.

BALDWIN-DUCKWORTH SALES

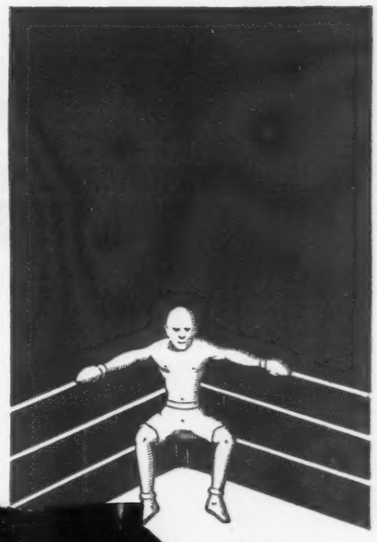
With the recent consolidation of the Baldwin Chain & Manufacturing Co., Worcester, Mass., and the Duckworth Chain & Manufacturing Co., Springfield, Mass., into the Baldwin-Duckworth Chain Corp., George D. Gilbert has been appointed sales manager of the Duckworth division and Arthur W. Warren, sales manager of the Baldwin division. The factories in Worcester and Springfield will be operated as separate divisions, with administrative headquarters in Springfield.

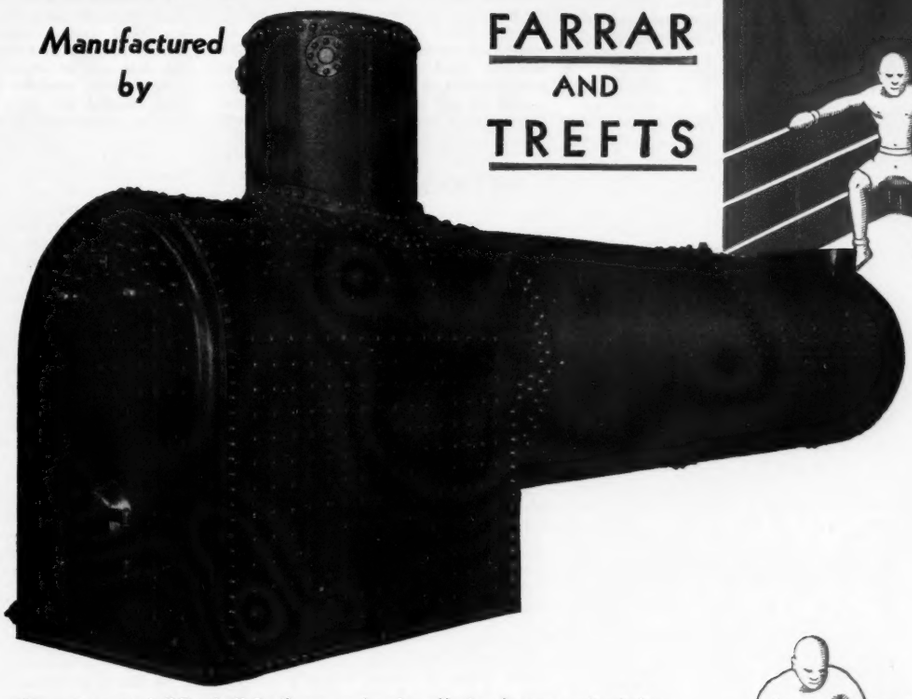
The Hyatt Roller Bearing Co. of Newark, N. J., announces the appointment of C. L. Newby as manager of its western division in Chicago. Mr. Newby has been with the company since 1918 as sales engineer.

INTRODUCING!

CONTINENTAL "CODE" BOILERS

Manufactured by FARRAR AND TREFTS





Continental "Code" Boilers embody all the latest principles of design and manufacture—assured by knowledge and equipment of one of the outstanding manufacturers whose products have earned a reputation for excellence and dependability over a period of many years.

Quick delivery from Continental stores or factory.

"If Continental Sells It....There Is No Better"

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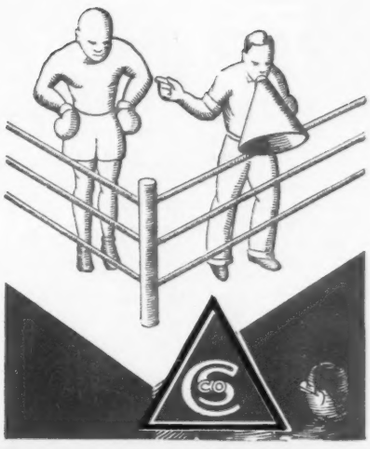
224 Traders Building, Calgary, Alberta, Canada

Export Offices: CONTINENTAL EMSCO COMPANY, INC. 74 Trinity Pl., New York

London Offices: 316-17 Dashwood House, Old Broad St., E. C. 2

CONTINENTAL EMSCO S. A. R. 7, Strada Eminesou, Ploesti, Romania



CONTINENTAL

Field Problems and Their Solution

EDITED BY THOMAS F. SMILEY

In order that men connected with the drilling, producing and transporting branches of the petroleum industry may procure quickly a solution of many problems confronting them from time to time in their work, The Oil and Gas Journal has arranged with leading engineers and other recognized authorities to answer questions submitted by readers of this publication pertaining to the work of drilling and producing crude oil and transporting this product.

Everyone is invited to submit questions freely. These questions will be submitted to proper authorities by Mr. Smiley, who edits the page, and answers, based on the best available information, will be published. Each question should give as much detail as possible, especially where it relates to matters where depths of sands, types of sands and operations on adjoining properties would have a bearing on the problem involved. The source of all questions will be considered as confidential and only initials will be published in connection with the question.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or practices which are improvements.

In case an immediate answer is important, one will be given by mail if the writer requests it.

COMPRESSOR FOR GAS LIFT

Differences of opinion seem to exist on the question of what size compressor is best for gas lift work. Some say use a big one and some say use a small one. Can you tell me what is the best practice?—N. F. S.

This question is open to several answers for with the change in conditions at the wells there will be corresponding changes in the equipment needed but the following statement quoted from Robert Stirling's "Gas Air-Lift Pocket Book," outlines general principles that should be applied in selecting compressor equipment.

"Regulating Quantity of Liquid Raised.—It has been pointed out that it is not easy to regulate the capacity of the air-lift apparatus within narrow limits, while maintaining a steady flow, which is so essential, because of the effect on the oil sand and ultimate yield. Regulation can always be obtained by manipulating the flow tube, and the most convenient method will vary according to circumstances.

"If much less yield be required the flow tube should be changed for one of smaller size. But if only a comparatively small reduction, or if the flow tube be already to the bottom of the well, it would not be worth while to change to a smaller size of flow tube. In such case it would be more convenient to raise the flow tube, reducing the dip and the liquid discharge and entailing lower gas pressure, greater volume of gas, and some loss in efficiency. Thus having in view that, as the rock pressure falls the dip will be reduced, and if production is to be maintained, the flow tube must eventually be lowered to obtain it.

"If increased yield be desired, a larger size flow tube should be used. Some increase can be obtained if the dip be less than 40 per cent and the depth of the well and gas pressure available admit, by lowering the flow tube so as to have a dip up to 50 per cent.

"Air or Gas Supply.—If obtained from a separate compressor, the pressure will be governed by the dip in the well, and the quantity can be regulated by the revolutions of the compressor.

"If obtained from a central station, the starting and working pressure of the wells should be arranged to be as nearly equal as possible, or, if this be impracticable the wells may be divided into groups according to the pressure required, and a separate main led from one or a group of compressors, to each group of wells.

"It must be borne in mind that the excess pressure in the main, above that required to flow a well, represents dead loss of power. The starting pressure seldom requires to be more than 50 pounds above the working pressure.

"The supply of gas to a well should in no case be greater than that sufficient to maintain a steady flow, even if the gas be obtained without expenditure of power from another well. To supply more is bad practice, and prevents comparisons of efficiency.

"Efficiency.—For all practical purposes of comparison the mechanical efficiency of the air-lift apparatus may be set up very simply as follows:

$$\frac{\text{H.P. to raise liquid}}{\text{H.P. to compress air}} = \frac{\text{Water H.P.}}{\text{Air H.P.}} =$$

$$\frac{\text{Cu. ft. liquid per minute} \times 62.3 \times \text{Lift ft.}}{33{,}000}$$

$$\text{c. f. free air per min.} \times 0.539 \left[\left(\frac{p^1}{p^0} \right)^{0.144} - 1 \right]$$

$$\times 100 = \text{Efficiency per cent.}$$

"The formula for gas horsepower allows 20 per cent on theoretical horsepower for compressor losses. No allowance is made for losses in piping air from compressor. These being so variable would vitiate comparison of mechanical efficiency of the air-lift apparatus. The formula can be varied to take into account the weight of the oil lifted by inserting its specific gravity after 62.3 (the weight of a cubic foot of water) but it is considered best to omit it and make the comparisons based on water horsepower so as to reduce the variables.

"The formula of efficiency may be simplified, if it is not desired to find the total air horsepower used, but only the percentage of efficiency of the operation:

$$100 \left(\frac{\text{Water H.P.}}{\text{Air H.P.}} \right) \text{ (for 1 cu. ft. liquid per minute)} =$$

$$100 \frac{\text{Lift feet} \times .00188}{\text{Air ratio} \times 0.539 \left[\left(\frac{p^1}{p^0} \right)^{0.144} - 1 \right]}$$

p^1 absolute pressure pounds. p^0 atmospheric pressure pounds.

H.P. TO COMPRESS 1 CU. FT. OF FREE AIR TWO STAGE (THEORETICAL 20%)

Gauge Press.	H.P.	Difference p lbs.
100	0.1850	.00092
110	.1938	88
120	.2020	82
130	.2095	75
140	.2168	73
150	.2237	69
160	.2311	.00064
170	.2374	62
180	.2432	59
190	.2489	57
200	.2543	54
210	.2595	52
220	.2635	.00050
230	0.2684	.00049
240	.2731	47
250	.2776	45
260	.2820	44
270	.2863	43
280	.2905	42
290	.2946	41
300	.2984	38
350	.3162	36
400	.3318	31
450	.3462	29
500	.3596	27

TUBING SIZES IN SEMINOLE

What sizes of tubing are used in pumping wells in the Seminole area, please? I would like to know the size used in wells produced by gas lift also.—F. S. T.

Tubing sizes in pumping wells in the Seminole area range from 2 to 4 inches, depending on the method pumping, the fluid production of the well, and the size of the sucker-rods. Even with these data in hand different operations would be likely to use different sizes of tubing. In a well in which three-fourths inch rods are used and producing not more than 200 bbls. of fluid daily, it is regarded as good practice to use 2-inch tubing. Where a tapered rod string made up of three-fourths inch and seven-eighths inch rods is employed it is necessary to use 2½-inch tubing in order to afford proper clearancce for the larger rods. Some of the Seminole wells now on the pump were produced by gas lift with 2½-inch external upset seamless tubing and when these wells were put on the pump the same string of tubing was used. This is the reason for the fact that many wells are using 2½-inch tubing instead of 2-inch. In wells produced by a combination of the pump and lift methods 3-inch and 4-inch tubing is used, the larger flow area being required to maintain a proper fluid velocity.

WHY WAS IT CALLED THAT?

KNOCK-OFF JOINT

One use of this term is in connection with a pumping power, where a short piece of pipe or a casting is placed between the knock-off post and the end of the pull rod to stop the movement of the rod while the throw-off hook is disengaged. This has to be done of course when the crew quits work—that is, knocks off—and this fact evidently brought about use of the term to designate the device used in knocking off for the day.

GEOLOGICAL ADVICE NEEDED

Our company holds a leasehold of approximately 400 acres in southern West Virginia which it contemplates developing for Berea gas in the near future. Recently we investigated the surrounding wells and found there five producing gas within three-quarters of a mile of our property, none closer than half a mile. The Berea here averages 20 feet in thickness. On two of these wells, one of which was drilled several years ago and one recently, the rock pressure averages approximately 175 pounds and on the three others in the same field the rock pressure averages 375 pounds. The volume ranges from 250,000 to 1,000,000 feet. What is your theory as to the difference in rock pressure? Under usual conditions would our chances be equal in getting the lower or higher pressure on a new well half a mile away?—H. P. T.

Without detailed geology of this area or personal acquaintance with the district and the Berea gas sands it would be virtually impossible to offer an intelligent opinion concerning the possibility of your drilling wells near other gas wells and getting high or low pressure. This department is sending you the name of a consulting geologist in Pittsburgh, Pa., who has done work in West Virginia areas, which makes it possible that he may be able to answer your question.

RELATION OF SOIL TO OIL

While passing through your oil sections last fall I noticed the similarity of your soil to ours. The thought occurred to me that I never had heard of land in Georgia being tested for oil. We have 1,380 acres of land. Some of the soil is dark. Portions are gray. Oak, poplar, cypress, sweet gum and pine grow on this land. Both soil and timber resemble very much those found in Kansas and your State.

We found them drilling for oil in the sand hills of Nebraska. Could we get our land tested immediately for oil? Would be glad to know just how to get this test and at what cost.

In sending samples of the soil to the state chemist how deep should these samples be taken?—W. R. S.

The soil which you see in traveling through the country or walk over at your home does not have any direct bearing upon possible oil-producing formations underneath. Soil is merely pulverized rock and while the geologist considers it in making a survey of a region it does not in itself carry any oil. The oil-bearing formations are usually many hundreds of feet, and at times thousands of feet, below the surface and were laid down ages before this top soil was deposited.

It is suggested that you write to the state geologist of Georgia for a general statement as to the possibilities of finding oil in your particular neighborhood, for it is understood that the geological department of that State has made a survey of all the land and can give you some general information about the formations.

The safest way to proceed if you desire to have your land prospected for oil is to obtain the services of a reliable geologist and by paying him a consulting fee for a report you will get some definite and trustworthy advice and from it you can judge whether you desire to spend money for drilling a test well.

It might be possible to have someone else drill a well upon your land if the geologist's report is satisfactory, but in either event it is much safer to pay for expert services of this kind rather than to proceed without advice, for even if there are oil possibilities in your neighborhood the location of a well in the proper place to penetrate the underground structures containing it should be decided upon only upon the advice of someone experienced in such matters.

GET PATENT COPIES FIRST

I am working on a working barrel or cylinder to set inside of casing for pumping water without using tubing; just a sucker-rod. I have been informed that such a device is being used in California, but not a success. Could you tell me where I could get a blueprint of this California working barrel? Is it patented? If you cannot give me this information can you refer me to somebody who could?—C. C. M.

There are a great many different kind of pumps used in California and from your description it is impossible to determine which one you refer to.

It is suggested that you apply for copies of all patented oil well pumps through a patent attorney, for he can obtain copies of all patents that have been issued at nominal cost.

When you have these you can decide whether your idea infringes on any of them and proceed accordingly. It is found that ideas overlap and many times inventors spend time and money in developing something only to find when their application is filed that it already has been covered.

IDEAL

TRAVELING BLOCK

76 INCH TYPE C

42-INCH DIAMETER SHEAVES
WITH A.P.I. GROUND GROOVES
⁘ ROLLER BEARINGS ⁘ 8¾-INCH
CENTER PIN ⁘ BUILT-IN GUARD
⁘ ALL STEEL CONSTRUCTION ⁘
9000 POUNDS WEIGHT.....

Descriptive Bulletin
No. 92
Sent on Request

THE
NATIONAL SUPPLY
COMPANIES

Snapshots of Men in the Field

(1) Ike Shannon, backup, and M. C. Arnold, pipe racker, Exchange Drilling Co. (2) Left to right: H. M. St. Clair, construction superintendent, Dresser & Gorton, Inc.; Charles C. Chaney, superintendent, Cromwell-Franklin gasoline plant; R. R. Owens, superintendent of gasoline department, Cromwell-Franklin; and Paul Barton, field engineer, Jackson Engineering Corp., Oklahoma City, Okla. (3) Left to right: Murl Mays, farm boss; S. J. Remaplus, plant foreman; R. W. Fawcett, superintendent of air lift department, Mid-Kansas Oil & Gas Co., Oklahoma City, Okla. (4) Mutt Johnson, driller; W. L. Wright, derrick man: and Ralph Greagary, fireman, Exchange Drilling Co. (5) S. J. Blower, chief engineer, and S. J. Struben, superintendent of stations, Interstate Gas & Fuel Corp. (6) Left to right: J. E. Dinger, drilling superintendent, and J. P. Triplett, tool pusher, Magnolia Petroleum Co. (7) A. E. Butts, A. O. Smith Corp. representative in Oklahoma. (8) F. W. Vogel, Julian Oil & Royalty Corp., Oklahoma City, Okla.

McEvoy on Guard

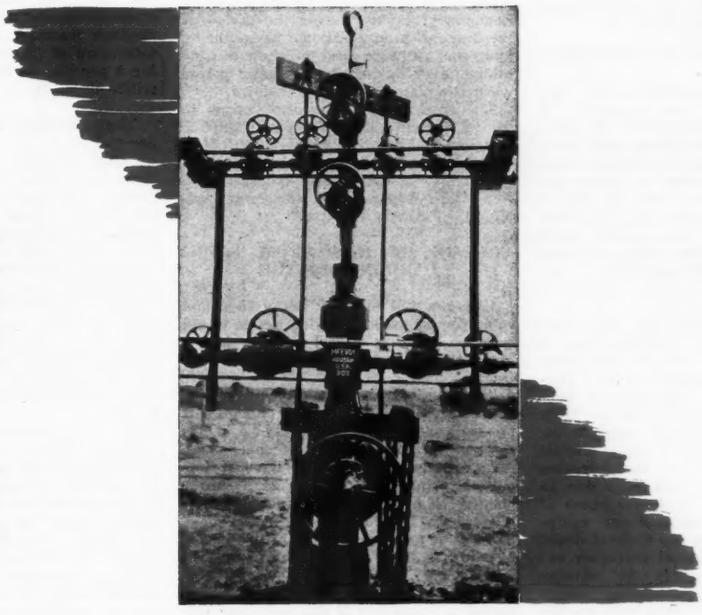
McEvoy Universal Head stands pressure . . . no gas leaks . . . .

THERE IS A REASON WHY THE McEVOY UNIVERSAL HEAD IS SO WELL KNOWN IN THE REFUGIO FIELD

In this field where gas pressure is terrific and where nothing can be used except high test equipment, the McEVOY UNIVERSAL HEAD is well known as being absolutely dependable and reliable.

It is a serious matter to have gas leaks. Use the McEVOY UNIVERSAL HEAD that prevents leaks and stands the pressure.

Write for illustrated folder NOW



McEvoy Universal Head on a High Pressure Well in Refugio; 1200 lb. pressure.

J. H. McEVOY & COMPANY

HOUSTON, TEXAS, U.S.A.

Pacific Coast Branch: McEVOY SCREEN PIPE CO., 2428 E. 56 St., Los Angeles, Calif.

Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with the marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.

All inquiries should be signed and if other than the given initials are to be used please indicate the desired letters.

Questions involving patented processes, intricate formulas and calculations and estimates of costs, for obvious reasons, cannot be answered. The replies will appear on this page within a reasonable time.

SULPHUR IS CAUSE OF CORROSION

Have you any information which would give the cause of the corrosion of stills, condensers and towers? We have corrosion on both straightrun and cracking units that appears in nearly round spots. This is explained as being due to acids but it seems that if this is caused by acids it would extend for some distance instead of just rather small spots. Any information which will help us to locate the real cause will be appreciated.—D. R.

The numerous studies that have been made of the reasons for the corrosion of metals have led us to conclude that there are two fundamental causes; electrical and chemical. Electrolysis may accompany chemical action but the term is intended to that form of corrosion resulting from the action of stray electric currents. Many cases of the corrosion of underground pipe have been due to electrolysis and probably is the cause of the corrosion of some refinery equipment. However, there are without doubt more reasons for chemical corrosion under conditions existing in the refinery than for electrolysis.

Crude oil, water and chemicals are the source of several corrosive compounds. Crude oil contains sulphur, and may contain chlorides; much of the water used in refining contains chlorides, sulphates, carbonates, and occasionally acids; the careless handling of the chemicals used in treating may introduce several corrosive materials.

The compounds present in the crude oil and water frequently decompose to form both hydrochloric acid and the acids of sulphur. These are often found in the water flowing from the condensers and are the cause of the loss of metal in the lower part of condenser coils; that is after the vapors have been reduced to the liquid form. Such corrosion is usually quite general and may extend along the bottom of several lengths of pipe. Most of the sulphur compounds decompose to form free sulphur, which is frequently found in the towers, condensers and on parts of the look-boxes. Examples, for the purpose of illustration, are hydrogen sulphide and sulphur dioxide. Hydrogen sulphide in the presence of a limited quantity of air (oxygen), will form free sulphur according to $2\ H_2S + O_2 = 2\ H_2O + 2\ S$. Also, under the high temperature of the cracking still it is liable to direct decomposition with the formation of hydrogen and sulphur. Hydrogen sulphide and sulphur dioxide react to produce free sulphur, as shown by $2\ H_2S + SO_2 = 2H_2O + 3\ S$. Direct combination of the sulphur and the metal causes the corrosion in spots.

The experiments and conclusions reported by Retailliau and Lang, Cause of Corrosion in Cracking Plants, American Petroleum Institute, Chicago meeting, December 4, 1929, are of interest:

CORROSION OF IRON AND STEEL BY VARIOUS CHEMICALS AT 900° F.
(Resulting corrosion in per cent loss by weight chemical)

	Non-polished		Polished	
Chemical—	Wrought iron	Steel	Wrought iron	Steel
Hydrogen sulphide	0.9	1.1	2.0	2 3
Sulphur dioxide	0 1	(†)	1 2	4 4
Hydrochloric acid	(*)	(*)	0.24	1.0
Sulphur	5 5	4 5	6.5	10 7
Naphthenic acids	(*)	(*)	(*)	(*)
n-Butyldisulphide	(†)	(†)	1.8	0.6
Ethyl disulphide	(†)	0.5	0 2	0.8
Sodium chloride	(*)	(*)	(*)	(*)
Magnesium chloride‡	0.1	0 2	0 2	0.4
Magnesium oxychloride	(*)	(*)	(*)	(*)
Magnesium chloride	0.2	0 3	(†)	0 2

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"In cracking plants using a sulphur bearing charging stock, it seems that corrosion is mainly due to the action of elementary sulphur during the period of cracking, with an additional corrosion by hydrogen sulphide and sulphur dioxide taking place during the steaming period when the plant is being shut down.

The mechanism of corrosion seems to be the decomposition of organic sulphur compounds, liberating hydrogen sulphide, which in turn is decomposed at the temperatures employed, into hydrogen and elementary sulphur. The elementary sulphur then attacks the steel."

VOLUME OF GAS FROM SOLID CARBON DIOXIDE

Can you tell me how many thousand cubic feet of carbon dioxide gas it would take to make a pound of dry ice?—H. C. P.

"Dry ice" is the name that is sometimes applied to solid carbon dioxide, but the trade name is usually "dri-ice." This form of carbon dioxide is of some value as a refrigerant because of its very low boiling point: minus 108° F. Carbon dioxide is a heavy gas which may be reduced to the liquid form with slight increase of pressure; at 32° F. it becomes a liquid under a pressure of about 525 pounds.

The weight of any gas may be converted to cubic feet if the molecular volume constant be kept in mind. That is the molecular weight of any gas when stated in terms of pounds will measure 359 cubic feet at 32° F. The molecular weight of carbon dioxide is 44. Therefore 1 pound of carbon dioxide will be equivalent to approximately 8 cubic feet at 32° F. and atmospheric pressure.

SEDIMENT IN FUEL OIL

In a recent article I noted that P.D. bottoms were blended with the residuum both before and after it passed the cooling box. This was done to reduce the amount of suspended coke and also to keep it from settling out in storage. Do P.D. bottom shots help the coke problem other than to dilute the mixture and thus show a less per cent than in the whole residuum or is there a change of hydrocarbon ring or a stabilizing effect?—C. A.

It is not clear just where the P.D. bottoms are introduced into the system before the stream passes to the cooling box. Such bottoms are sometimes used as a trim in the hot tower and further serve to dilute the fuel with the consequent decrease of density. The thinning of the product of course aids the settling of the coke sediment so that the fuel oil may meet a reasonable specification for sediment; also, that the pourpoint will be lowered together with the viscosity. This dilution usually takes place after the hot oil has passed through the cooling box.

Probably some cracking would take place if the P.D. bottoms were introduced into the hot oil before being cooled but it does not appear likely that any marked change in the structure of the hydrocarbons present in the fuel oil would occur as the result of the addition of the P.D. bottoms. The chief influence of the lighter material would be, as you have suggested, to clear up the oil with respect to the solid material that otherwise would remain in suspension.

MINERAL SEAL ABSORPTION OF GASOLINE

Kindly explain the chemical action that takes place in the absorption of the gas fraction by mineral seal oil, and why a unit volume of oil will absorb more of the gasoline fraction or become heavier saturated with hydrocarbons from rich gas than from lean gas? Also, why is it less difficult to completely remove the gasoline fractions from an oil having a saturation of 30 per cent than one having 5 per cent in its passage through the still?—J. F. D.

The extraction of gasoline from a rich gas and the recovery of gasoline from an oil that is highly saturated is in both cases not difficult because more of it is present. High concentrations usually mean that the percentage of heavy, or high boiling point, hydrocarbons is also high and these are thrown out of the gas at comparatively low pressures without great reductions in temperature. A similar reasoning may be applied to the rich oil, with the further suggestion that the last fraction of gasoline may be difficult to remove from the absorbing oil because the endpoint of the gasoline frequently is very close to the initial boiling point of the oil.

It is not thought that there is any chemical reaction involved in the extraction of gasoline from a wet gas, but there are several fundamental physical laws that apply and we know some of the important variables or factors that influence yields. The principal variables that have to do with the process include—temperature, pressure, velocity, surface exposure, supply of oil and kind of oil, design of apparatus or efficiency, the kind of gas, and the richness of the gas. Gasoline is not a simple compound but a mixture of several hydrocarbons and these differ from each other by what may be called small differences; the boiling points, for example, are not so far apart that it would be practical to make a separation by temperature alone.

A mathematical analysis of the conditions pertaining to the absorption of gasoline may be found in the article by Alois Kremser, The Oil and Gas Journal, May 22, 1930, page 140. An abstract of the conclusions from this article follow: Butane factor—the effect of the most important variables may be defined by a single term, designed as "butane factor," and if this factor is known definite conclusions may be drawn as to the possible extraction of different constituents. Number of Plates—A minimum of 16 plates is recommended for standard absorption practice. Adequate number of plates is more important than a high plate efficiency. Temperature—Efficient cooling of the absorption oil is important. Losses due to inefficient stripping of the lean oil are reduced by lowering its temperature. Gasoline Content of Lean Oil—With a fixed absorber pressure it is impossible to compensate for inadequate stripping by increasing the oil rate. Physical propertes of the oil are important. Selectivity of the Absorption Process—Selectivity is increased by providing an adequate number of plates, and other things equal, the selectivity of the process is increased the lower the temperature it is carried out.

	1	2	3
Percentage of coke	60–70	70–80	60–75
Percentage volatile matter	1–2	7–15	7–15
Gas cu. ft. per ton	11,000–12,000	3,000–5,000	20,000–50,000
Tar, gallons	10–12	20–30	18–20
Specific gravity of tar	1.19	1.07–1.09	1.02–1.07
Motor fuel, gallons	2.5–3.0	2.5–3.0	None
Ammonium sulphate, lbs.	25–30	10–12	12–18

It will be seen that the increased by-product production by low-temperature carbonization is mainly in the increased tar yield. This is partly offset by the lower yield of ammonia and there is also a lower yield of gas.

CARBONIZATION OF COAL AND PETROLEUM RESIDUE

We have been experimenting with coking processes for reducing heavy fuel oil to coke and would appreciate some explanation of the difference between low and high temperature carbonization as applied to coal. Would the same principles govern coke formation and the character of the coke from fuel oil?—W. H. L.

The character of the oil will influence yield and quality of the coke produced in somewhat the same manner that the kind of coal and conditions of heat treatment control the quantity and characteristics of the coke that may be made from coal. When coal is coked for a relatively long period at high temperature, the product is hard and uniformly grained; when the process of low carbonization is applied to the same coal, the tendency is to form a soft coke with large cells. There is considerable difference in the liquid and gaseous products obtained by these methods.

A review of several processes for making coke and other products by carbonization was presented by A. C. Fieldner, chief chemist, United States Bureau of Mines, in several issues of Power, 1926, and the conclusions following have been abstracted from this source.

At high temperatures the primary tars from coal are cracked to a considerable degree, producing fixed gases, aromatic oils, tars containing phenols, cresols, anthracene, naphthalene, and other organic bases. A semicoke, containing 7 to 15 per cent volatile matter is obtained from the low carbonization methods, and, as the tars are not so completely decomposed, the yield of organic compounds is not so large as with high temperature treatment; also the gas volume is much less by the low temperature carbonization than under high temperature carbonization. The low-temperature product contains saturated and unsaturated paraffin hydrocarbons, naphthalene and complex aromatic hydrocarbons, while the high-temperature processes yield benzol, toluol and xylol.

The quantities of low-temperature products are affected also by the process used, that is, whether the heating of the coal charge is external or internal.

The following figures show approximate results obtained: (1) From high-temperature carbonization of coal; (2) from low-temperature carbonization with external heating; and (3) low-temperature carbonization with internal heating:

Magnetometer Results in Lea County

Relation of Magnetometer Structures in Gaines and Andrews Counties, Texas, With Respect to Structures in New Mexico

By L. Spraragen

There is perhaps no other area which gives so striking results with the magnetometer as that portion of Lea County, New Mexico, which is now being developed as the Hobb's High area.

The discovery well was drilled by the Midwest Exploration Co. and whether the reason for drilling the first well at the particular location chosen was due to geophysical work or geological information is immaterial. The fact remains that an enormous high exists and the object of this article is to show the magnetometer results for this particular area.

The writer has made no attempt to map the structure or structures in detail as the time required was not available. Several west to east cross sections were made over the most interesting part and these cross sections are shown as a part of this paper.

Because of the interest manifested by the oil operators in this entire region the magnetometer work was carried over into Gaines and Andrews Counties, Texas, and the relation of the magnetometer structures in these two counties of Texas with respect to the structures in New Mexico can be studied.

Six profiles are shown together with the locations of the stations. For purposes of comparison and study the sketch maps have been drawn so that they can be combined one above the other, the Texas-New Mexico state line serving as the guide line. In this way it is possible to trace the high and low trends.

Discussion of the Profiles

The profiles are numbered from 1 to 6 starting with the most northerly one. Profile 1 represents the relative change in vertical magnetic intensity in the vicinity of Lovington, N. Mex., (west to east across Township 16s). The sharp break in the profile at Stations 11 and 12 is due to the abrupt change in the direction of the traverse. It will be observed that the magnetic intensity is practically constant over a distance of 18 miles until Station 12 is reached. From this point east there is a gradual increase in intensity until Station 20 in Gaines County, from this point east the intensity decreases again indicating a high disturbance in western Gaines County but not extending into New Mexico.

Profile 2* represents the relative change in intensity for a section about 6 miles south of the section indicated by Profile 1, (west to east across Township 17s). It will be observed that there is a sharp change in intensity starting at Station 30 and reaching a maximum at Station 38 after which there is again a decrease, indicating a high disturbance in Range 38e. At Station 42 there is an abrupt drop to Station 43 due to a change in the direction of the traverse. After Station 47 is reached there is again an increase in intensity up to Station 53 after which the value of the intensity again decreases indicating a second high disturbance along this west to east line. The high readings shown at Stations 50, 51, 52, 53, 54 and 55 are apparently a continuation of the high shown on Profile 1. It is also obvious that the high at Station 38 does not extend as far north as Township 16s as indicated by Profile 1.

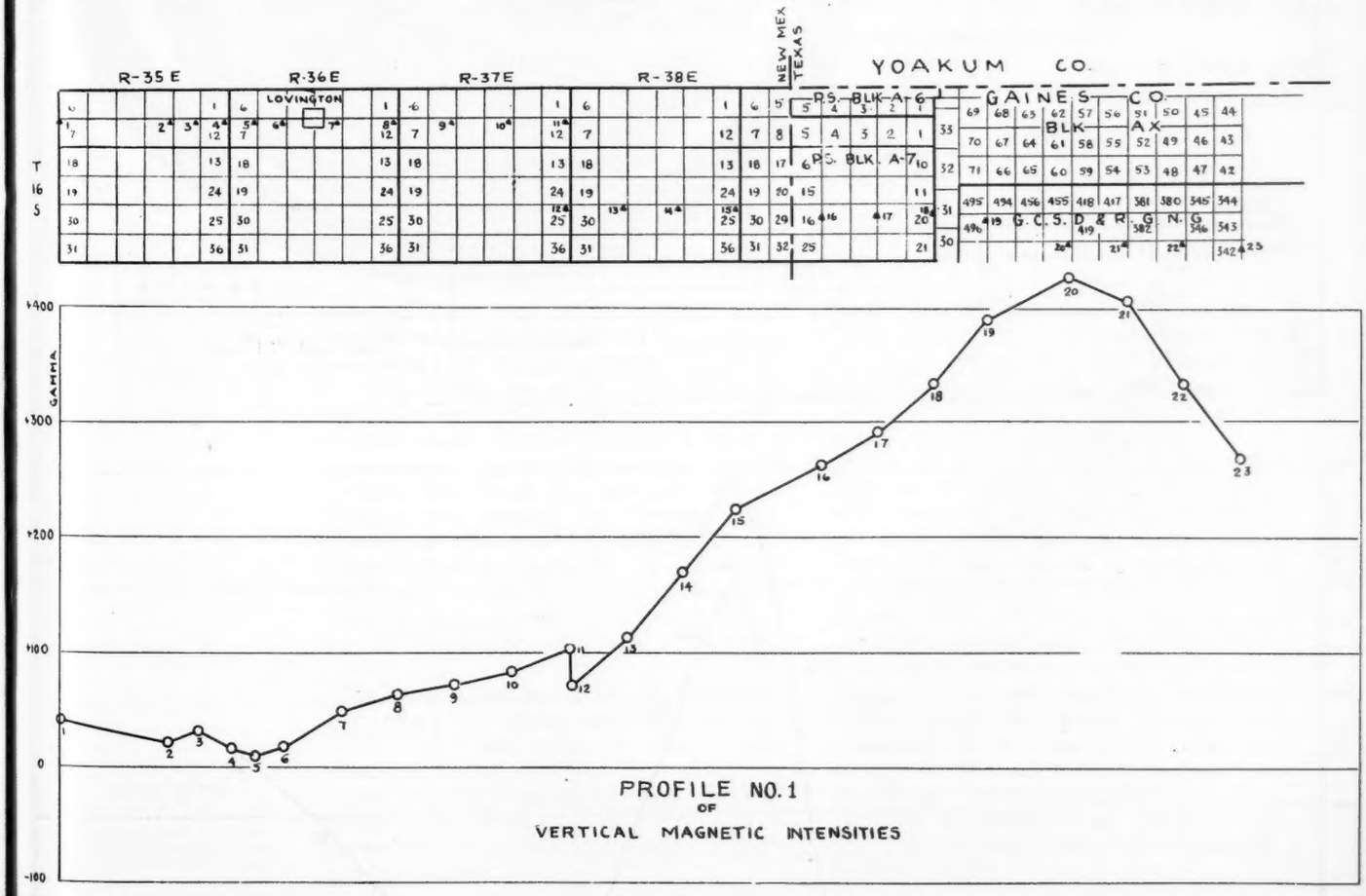
In Vicinity of Hobbs

Profile 3* represents the change in relative intensity for a section extending from west to east across the southern part of Township 18s in the vicinity of the town of Hobbs. It will be seen that from Station 56 to Station 67, a distance of 16 miles, the vertical intensity is practically of the same value. From Station 67 to Station 71, a distance of 4 miles, the vertical intensity increases at a very rapid rate giving a total change of about 467 gamma in the 4 miles.

After Station 71 is passed the intensity begins to decrease again to Station 72. Directly beneath Stations 70, 71 and 72 are shown Stations 70A, 71A and 73 and by observing the location of these stations on the map it will be seen that these stations, 70A, 71A and 73, are directly north of Stations 70, 71 and 72 indicating that the intensity drops off quite rapidly to the north. Also the intensity drops off very rapidly east of Stations 71 and 71A indicating a decided high trend in the vicinity of the town of Hobbs. After Station 77 is reached the vertical intensity begins to increase again forming a continuation of the high shown in Gaines County on Profiles 1 and 2. This profile also shows that the high indicated at Station 38, Profile 2, extends southward. The results shown on this profile represents one of the most outstanding magnetic anomalies obtained, particularly when the abruptness of the change is considered.

(Continued on Next Page)

*Profiles 2 and 3 are shown on page 92.



NEW RESEARCH BUILDING FOR MELLON INSTITUTE

Dr. Edward R. Weidlein, director, Mellon Institute of Industrial Research, Pittsburgh, Pa., has announced, speaking for the board of trustees, that the institution is to increase its facilities for serving American industries by a building project that will enable the material expansion of all its research activities. Construction will begin early this fall.

In addition to providing a greatly increased number of laboratories, the new building will give more commodious quarters for general departments. The library which contains 11,000 volumes will be enlarged to accommodate 250,000 volumes. The present Department of Research in pure chemistry will be expanded. Much more elaborate chemical engineering laboratories are to be available in the new building, and also the fellowships in each specific field of industrial research are to be grouped in suites so that they can best make use of general apparatus.

The new laboratory structure will be seven stories, approximately 300 feet by 400 feet. The main entrance on the third floor will be reached by steps extending along the entire front. The laboratories are to face on interior courts in which additional laboratory suites can be constructed.

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Have you any information which would give the cause of the corrosion of stills, condensers and towers? We have corrosion on both straightrun and cracking units that appears in nearly round spots. This is explained as being due to acids but it seems that if this is caused by acids it would extend for some distance instead of just rather small spots. Any information which will help us to locate the real cause will be appreciated.—D. R.

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Can you tell me how many thousand cubic feet of carbon dioxide gas it would take to make a pound of dry ice?—H. C. P.

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SEDIMENT IN FUEL OIL

In a recent article I noted that P.D. bottoms were blended with the residuum both before and after it passed the cooling box. This was done to reduce the amount of suspended coke and also to keep it from settling out in storage. Do P.D. bottom shots help the coke problem other than to dilute the mixture and thus show a less per cent than in the whole residuum or is there a change of hydrocarbon ring or a stabilizing effect?—C. A.

It is not clear just where the P.D. bottoms are introduced into the system before the stream passes to the cooling box. Such bottoms are sometimes used as a trim in the hot tower and further serve to dilute the fuel with the consequent decrease of density. The thinning of the product of course aids the settling of the coke sediment so that the fuel oil may meet a reasonable specification for sediment; also, that the pourpoint will be lowered together with the viscosity. This dilution usually takes place after the hot oil has passed through the cooling box.

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MINERAL SEAL ABSORPTION OF GASOLINE

Kindly explain the chemical action that takes place in the absorption of the gas fraction by mineral seal oil, and why a unit volume of oil will absorb more of the gasoline fraction or become heavier saturated with hydrocarbons from rich gas than from lean gas? Also, why is it less difficult to completely remove the gasoline fractions from an oil having a saturation of 30 per cent than one having 5 per cent in its passage through the still?—J. F. D.

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	1	2	3
Percentage of coke	60–70	70–80	60–75
Percentage volatile matter	1–2	7–15	7–15
Gas cu. ft. per ton	11,000–12,000	3,000–5,000	20,000–50,000
Tar, gallons	10–12	20–30	18–20
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CARBONIZATION OF COAL AND PETROLEUM RESIDUE

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Discussion of the Profiles

The profiles are numbered from 1 to 6 starting with the most northerly one. Profile 1 represents the relative change in vertical magnetic intensity in the vicinity of Lovington, N. Mex., (west to east across Township 16s). The sharp break in the profile at Stations 11 and 12 is due to the abrupt change in the direction of the traverse. It will be observed that the magnetic intensity is practically constant over a distance of 18 miles until Station 12 is reached. From this point east there is a gradual increase in intensity until Station 20 in Gaines County, from this point east the intensity decreases again indicating a high disturbance in western Gaines County but not extending into New Mexico.

Profile 2* represents the relative change in intensity for a section about 6 miles south of the section indicated by Profile 1, (west to east across Township 17s). It will be observed that there is a sharp change in intensity starting at Station 30 and reaching a maximum at Station 38 after which there is again a decrease, indicating a high disturbance in Range 38e. At Station 42 there is an abrupt drop to Station 43 due to a change in the direction of the traverse. After Station 47 is reached there is again an increase in intensity up to Station 53 after which the value of the intensity again decreases indicating a second high disturbance along this west to east line. The high readings shown at Stations 50, 51, 52, 53, 54 and 55 are apparently a continuation of the high shown on Profile 1. It is also obvious that the high at Station 38 does not extend as far north as Township 16s as indicated by Profile 1.

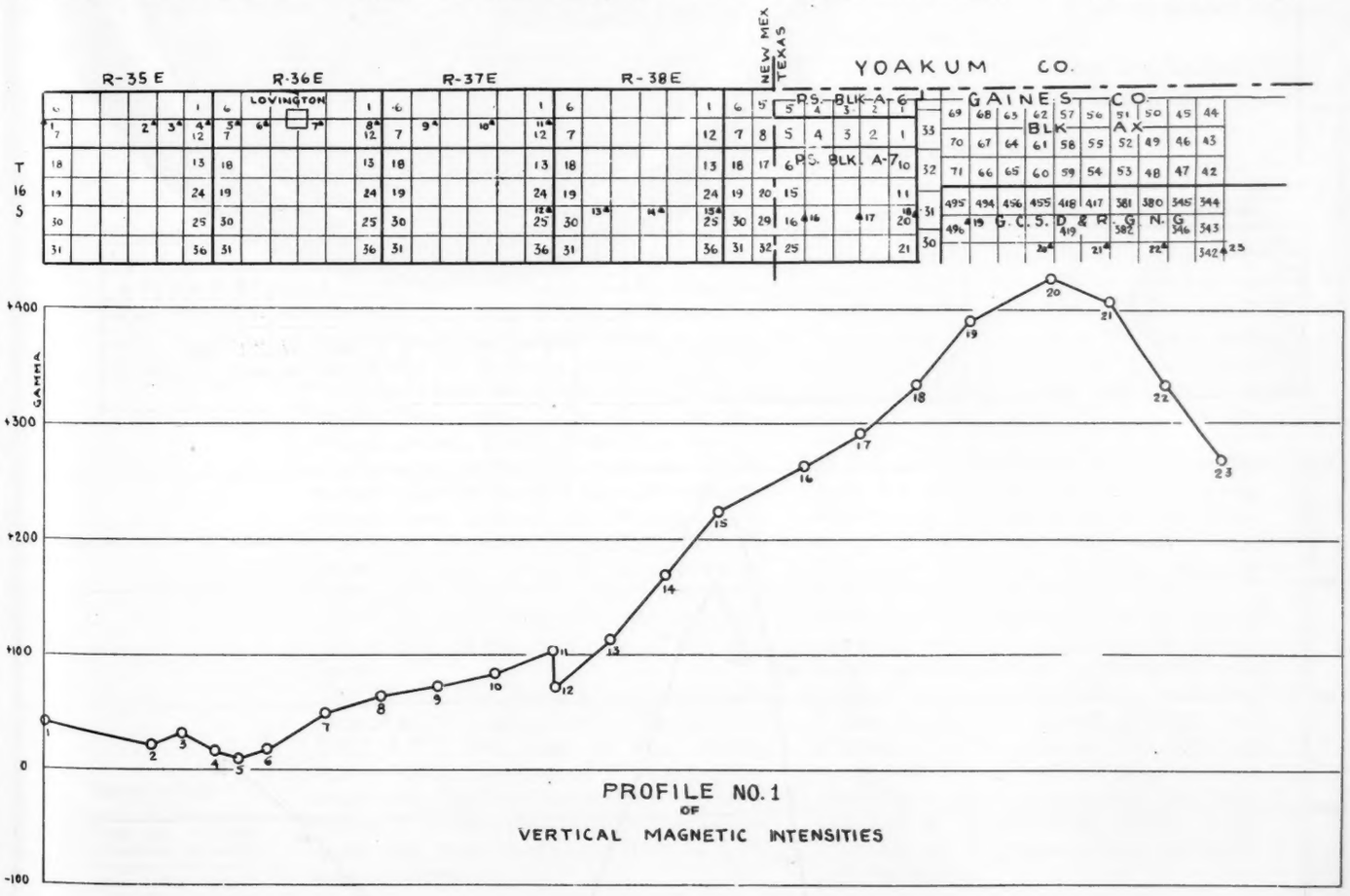
*Profiles 2 and 3 are shown on page 92.

In Vicinity of Hobbs

Profile 3* represents the change in relative intensity for a section extending from west to east across the southern part of Township 18s in the vicinity of the town of Hobbs. It will be seen that from Station 56 to Station 67, a distance of 16 miles, the vertical intensity is practically of the same value. From Station 67 to Station 71, a distance of 4 miles, the vertical intensity increases at a very rapid rate giving a total change of about 467 gamma in the 4 miles.

After Station 71 is passed the intensity begins to decrease again to Station 72. Directly beneath Stations 70, 71 and 72 are shown Stations 70A, 71A and 73 and by observing the location of these stations on the map it will be seen that these stations, 70A, 71A and 73, are directly north of Stations 70, 71 and 72 indicating that the intensity drops off quite rapidly to the north. Also the intensity drops off very rapidly east of Stations 71 and 71A indicating a decided high trend in the vicinity of the town of Hobbs. After Station 77 is reached the vertical intensity begins to increase again forming a continuation of the high shown in Gaines County on Profiles 1 and 2. This profile also shows that the high indicated at Station 38, Profile 2, extends southward. The results shown on this profile represents one of the most outstanding magnetic anomalies obtained, particularly when the abruptness of the change is considered.

(Continued on Next Page)



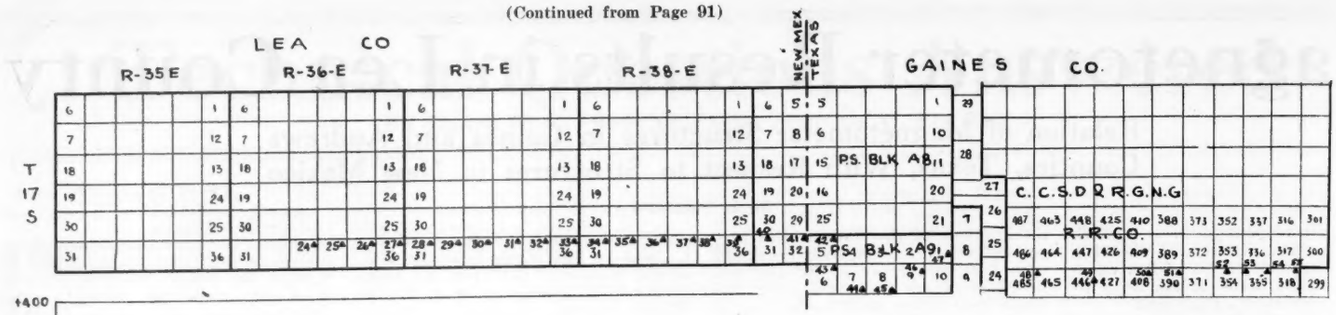
NEW RESEARCH BUILDING FOR MELLON INSTITUTE

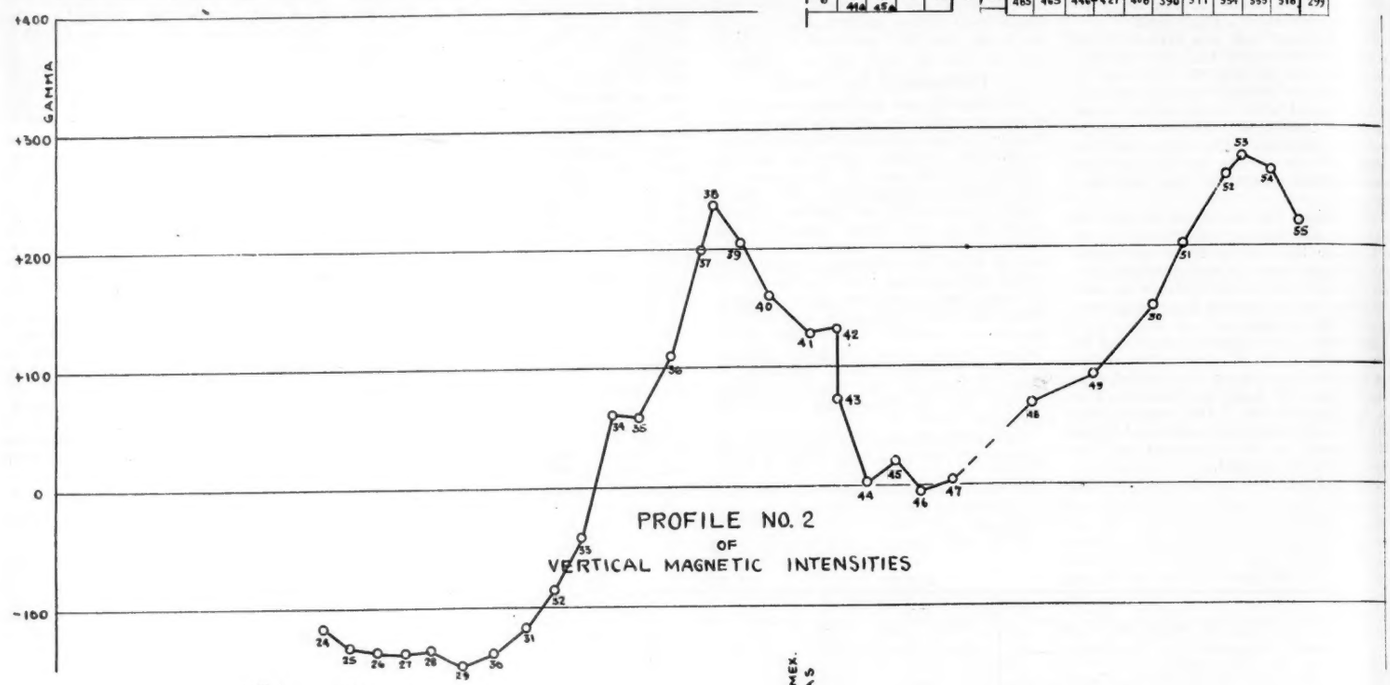
Dr. Edward R. Weidlein, director, Mellon Institute of Industrial Research, Pittsburgh, Pa., has announced, speaking for the board of trustees, that the institution is to increase its facilities for serving American industries by a building project that will enable the material expansion of all its research activities. Construction will begin early this fall.

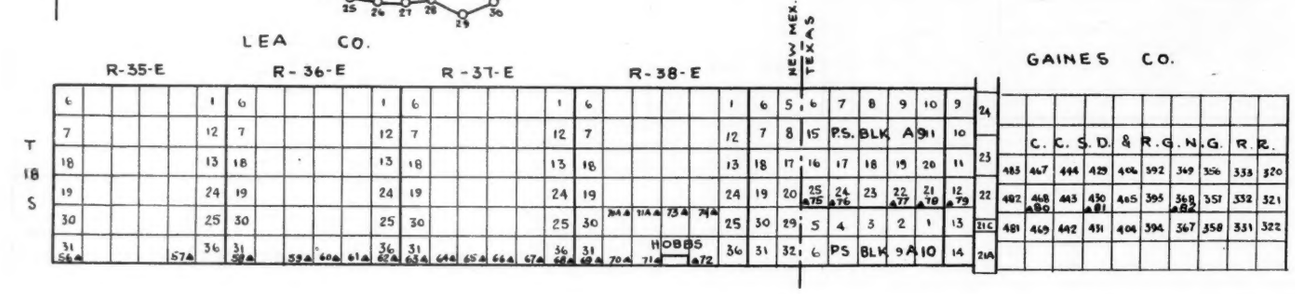
In addition to providing a greatly increased number of laboratories, the new building will give more commodious quarters for general departments. The library which contains 11,000 volumes will be enlarged to accommodate 250,000 volumes. The present Department of Research in pure chemistry will be expanded. Much more elaborate chemical engineering laboratories are to be available in the new building, and also the fellowships in each specific field of industrial research are to be grouped in suites so that they can best make use of general apparatus.

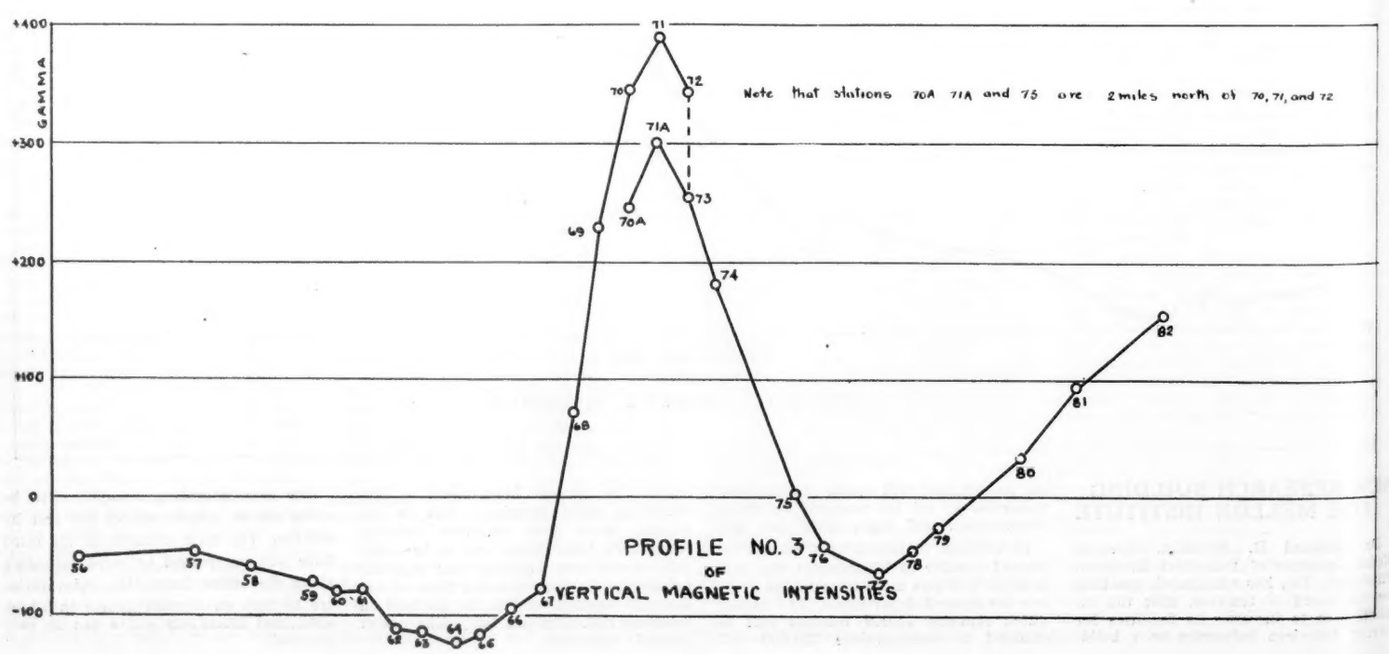
The new laboratory structure will be seven stories, approximately 300 feet by 400 feet. The main entrance on the third floor will be reached by steps extending along the entire front. The laboratories are to face on interior courts in which additional laboratory suites can be constructed.

(Continued from Page 91)









RETURN Circulation of Mud 4½ to 1

with Bettis Protectors on small drill pipe

FULLY PATENTED

EXAMPLE:

5¾" Casing

Return Circulation Area is 5.44 sq. in.

2½" Bettis Protector

2½" A. P. I. Drill Pipe

Area of water course for Ingoing Circulation 1.23 sq. in.

"Best bet yet!"

A continuous ring of rubber lubricated by the mud in the well offers greatest resistance to abrasion, being devoid of knobs, flutes or other recesses that might cause rapid wear upon concentrated areas. Bettis Protectors have a continuous surface of rubber which widely distributes the area of contact. Ample area around the Protector remains for the return circulation of the mud and even when the smallest size drill pipe is used the return circulation area is approximately 4½ times the internal bore of the drill pipe at the tool joint.

The illustration above shows the exact size of a 5¾" casing with Protector and 2½" A.P.I. drill pipe. A 5¾" casing has an inside diameter of 5", making the total area 19.60 square inches. By running a 2½" drill pipe with Protectors in same the cross area circulation is 5.44 square inches.

Each 2½" tool joint has a water circulation bore of 1.23 square inches so that it can be readily seen that there is approximately 4½ times as much area for return circulation as is provided for the water course in each tool joint.

If the operator desired to increase the area for circulation inside the casing this could be accomplished by skimming off 1/16" from each side of the Protector, but this is unnecessary in view of the 4½ to 1 ratio.

Before Bettis Protectors were placed upon the market we carried on extensive experimentation with different shapes of rubber cushions, including flutes, knobs and metal devices, and discarded all in view of the excelling results of the all-rubber solid surface protector. Bettis protection has been adopted as standard by almost every company drilling rotary wells throughout the world.

Carried in Stock

Deliveries of Bettis Drill Stabilizers can be made from the following points: Los Angeles, Ventura, Kettleman Hills, Bakersfield, Coalinga, Long Beach; California. Tulsa, and Oklahoma City; Oklahoma. Houston, Texas. Hobbs, N. M. Calgary, Alberta, Canada. New York City.

Patterson-Ballagh Corporation

INSURANCE EXCHANGE BUILDING, LOS ANGELES, CALIF.

Texas and Gulf Coast Distributors:
Bettis Sales Co.,
917 Merchants & Mfrs. Bldg., Houston

New York Office: 39 Cortlandt St.

Oklahoma Distributors:
Bailey & Becker Co.,
410 Thompson Bldg., Tulsa

CHARACTERISTICS OF NATURAL GASOLINE

(Continued from Page 38)

caused by high butane pentane composition. Study of the N.G.A.A.'s questionnaire shows that practically all "AA" gasolines fall along our 10 plus one-third the per cent off at 100 vapor pressure line between 40 and 55 per cent and if they are within the gravity limit group themselves pretty close to 50 per cent at 100. Checks of gasoline which are well represented by our Seminole production and some of the Texas production fall between 50 and 65 per cent at 100 and group themselves around 60. These gasolines are outlaw AAs because of gravity. Some of the older plants, compression plants and the like, or plants which have low oil circulation rates, give us low pentane-butane gasolines which fall between 25 and 40 per cent at 100 with vapor pressures corresponding and falling along our 10 plus one-third line if stabilized. These three groups seem then to indicate a logical division of natural gasolines and unless the pentane composition or ratio is abnormally low.

Basis for Blending

For the purpose of constructing blends of natural gasoline with naphtha we have chosen three naphthas which probably are comparable to average blending stock as used in refineries. The constants and distillations on these naphthas are as follows:

	"H" naphtha	"M" naphtha	"L" naphtha
1	132	128	106
5	190	180	142
10	244	208	166
20	306	254	201
30	334	290	226
40	348	316	246
50	360	336	266
60	368	352	284
70	376	364	304
80	382	382	328
90	394	392	360
95	404	405	380
E.P.	424	420	398
Rec.	98	98	97
Res.	1.0	0.8	1.0
V.P.	3	4.4	6.2
Reid Grav.	51	53.2	59.6

You will note from the distillation curve that L naphtha is an average type of blending stock for gasoline such as might frequently be found for use in blending with small percentages of natural for improved motor starting and acceleration. Chart No. 4 shows the distillation curve for our L naphtha and shows two naturals, A and B, both of which have 50 per cent pentane base, the A natural having 40 per cent butane and the B natural having 36 per cent butane and 4 per cent propane. The vapor pressure of the A natural is 29½ pounds and the B natural 34.6 pounds. Curves for the resulting blends are plotted and their vapor pressures are listed. You will notice that 90 per cent of the L naphtha blended with 10 per cent of A natural gives a vapor pressure of 9.47 pounds while 10 per cent of B natural in the same L naphtha gives us a vapor pressure of 10.2 pounds, an increase of nearly a pound vapor pressure between the two grades of natural. Please note that these two naturals have approximately the same percentage off at 100, the A natural having 57.5 per cent at 100 and the B natural 57.1 per cent off at 100.

This shows the effect of substitution of percentage propane for percentage butane in a natural gasoline and shows quite conclusively, particularly on the higher percentage blends, the bad effect of blending with high vapor pressure naturals which have approximately the same effect on the 10 per cent point while radically differing in their effects on the vapor pressures. The curves as plotted on Chart No. 4 are not sufficiently accurate to bring out the differences at the 10 per cent point and that phase of the discussion will be covered later. The point to note in these particular blends is the effect on the vapor pressures of comparatively small percentages of propane, such as are actually found in unstabilized naturals. You will note that the A natural is a typical natural having 91 recovery but 90 gravity, slightly above the limit for standard "AA" gasoline. The B natural crowds the limit of grade "C" with 77 recovery and 90.8 gravity.

However, the only actual difference between the two gasolines is the substitution of 4 per cent propane for 4 per cent of butane to make the B natural from the A natural. It will be noted that the A natural falls exactly on our 10 plus one-third the per cent at 100 while the B natural is 5 pounds above this vapor pressure line. Now using the same L naphtha but another natural having 39 per cent at 100 and a vapor pressure of 32.2 pounds, we have plotted the 5, 10 and 15 per cent blends on Chart No. 5.

It is immediately apparent that using such a natural the vapor pressure can be kept within limits up to approximately a 15 per cent blend while obtaining the 10 per cent effect which we desire. This J natural, also, falls exactly on our 10 plus one-third line. You will note that this L naphtha is perhaps too light to consider a normal blending stock, since it requires little natural to give it satisfactory starting and motor performance. Doctor Brown's data will probably show that the 15 per cent blend of J natural with this L naphtha, due to its vapor pressure, will give considerable trouble due to vapor lock at any atmospheric temperature above zero.

In general, this finished blend at 15 per cent will be considered too light a fuel for anything except rather extreme cold weather conditions in northern countries. A 5 per cent blend would probably give excellent performance in a motor in anything up to exceptionally hot weather conditions.

Higher Boiling Range

Now take the case of another naphtha having much higher boiling range. Quite obviously in using a heavy naphtha we can take greater liberty with our use of naturals in the blend. We can use

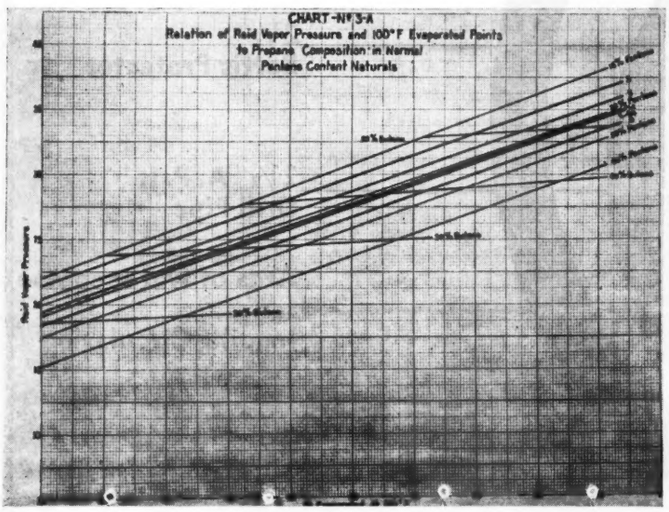


CHART-Nº 3-A
Relation of Reid Vapor Pressure and 100°F Evaporated Points
to Propane Composition in Normal
Pentane Content Naturals

Chart No. 3-A.

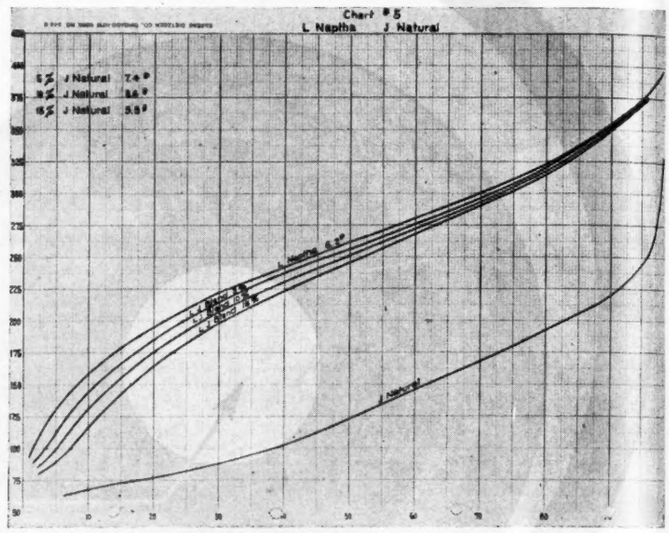


Chart No. 5.

for the moment at least let us consider blends of these types of gasoline and the effect of such blends on the finished 10 per cent point, vapor pressures, and the intermediate points.

In the first place, it must be understood that gasolines which fall along the 10 plus one-third the percentage off at 100 vapor pressure line must, of necessity, be well rectified natural gasoline. We may consider in general then that we are dealing with propane-free gasolines when they fall on our 10 plus one-third line

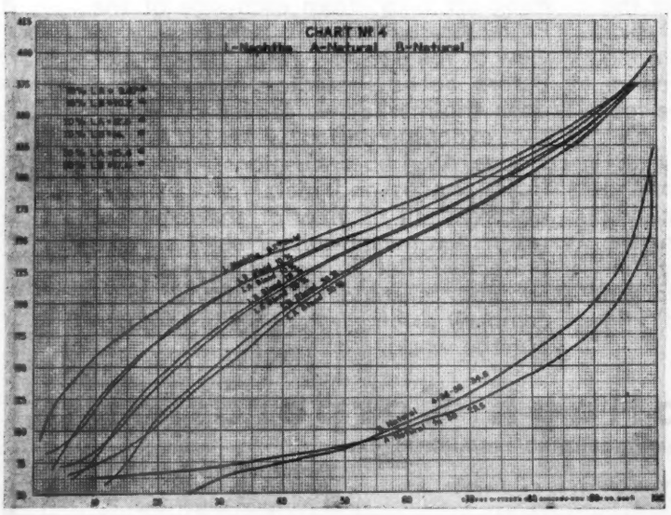


Chart No. 4.

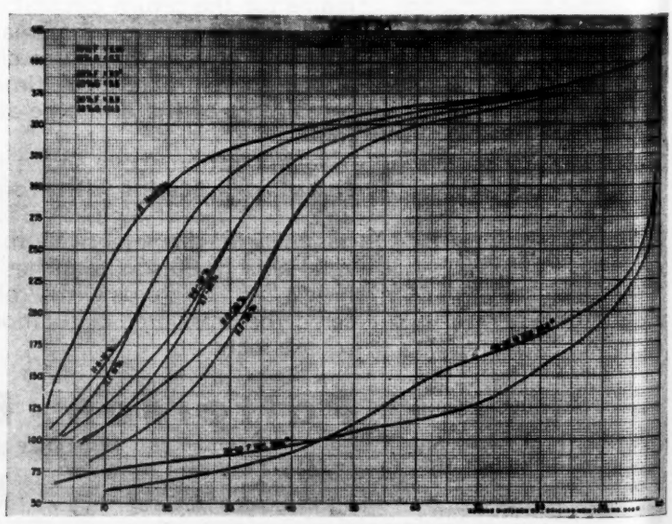


Chart No. 5-A.

larger percentages of natural and we can also use naturals of more widely differing characteristics. For the purpose of showing some of these relationships we have constructed Chart No. 5-A which shows the distillation range of our H naphtha and the distillation ranges of six blends made using two naturals, F and G having the same percentage off at 100. The F natural with 45 per cent off at 100, 75 per cent off at 140, Reid vapor pressure of 20.6 pounds, has a composition of 20 per cent butane and 60 per cent pentane in the butane-free base. The G natural, with 45 per cent at 100, 59 per cent at 140, 26.6 pounds Reid vapor pressure, has 40 per cent

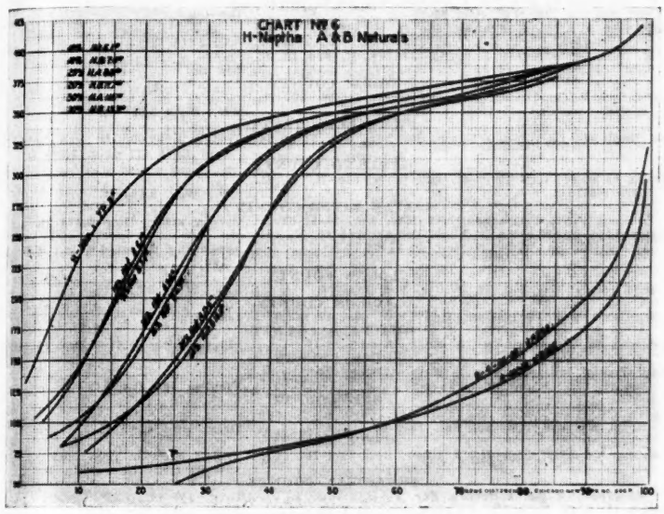


Chart No. 6.

butane and 20 per cent pentane in the butane-free base. Six blends are plotted showing the effect of 10, 20 and 30 per cent of the F and G natural on the original naphtha. The interesting thing about these blends is the fact that the low pentane content natural requires 30 per cent blend to reach the 10 per cent point which the high pentane content natural reaches with a 20 per cent blend and the vapor pressure of the two blends differ by only .4 pound.

In other words, against a heavy naphtha a high pentane base stock will give the same effect at the 10 per cent point used in much smaller quantities while keeping the vapor pressures much lower. If the blending considerations require that we influence the 35 per cent point by lowering its temperature, then quite obviously the high pentane natural which permits much larger percentage blending without unfavorably affecting the vapor pressure, is the gasoline which we should use.

It is particularly significant that the 30 per cent blend of low pentane natural has 11.3 pounds vapor pressure while the 20 per cent blend of high pentane natural has a vapor pressure of 9.5 pounds while the 10 per cent points remain practically the same and, while there is almost 75 degrees difference between the 35 per cent point in favor of the high pentane base natural.

We have shown the effect of high propane content in the finished blend of our L naphtha. We have also shown the effect of high and low pentane content in a blend with our H or heavy naphtha. Chart No. 6 shows the distillation curves of our H naphtha, the distillation curves of our same A and B naturals and six blends. The A natural has 40 per cent butane, 50 per cent pentane base and vapor pressure of 2+2 pounds Reid. The B natural has 4 per cent propane, 36 per cent butane and the same 50 per cent pentane base, with 54.6 pounds Reid vapor pressure. The same 10 and 20 per cent blends of these two naturals with H naphtha show within close units the same 10 per cent points, 6.1 pounds versus 7.4 pounds vapor pressure for the 10 per cent blends and 8.8 pounds and 11.7 pounds vapor pressure for the 20 per cent blends. It will be seen that against a heavy naphtha blending stock, it is possible to reach practical 10 per cent points using a high propane content gasoline particularly for winter fuels where high vapor pressures are not objectionable.

Now for a practical application against a fixed type of naphtha using two different types of natural to fit summer and winter driving conditions. For this purpose let us use the M naphtha which we described early in the paper. This naphtha, you will recall, has an initial of 128, an uncorrected 10 per cent point at 208 and a vapor pressure of 4.4 pounds. The naturals to be considered are first the K natural having 40 per cent butane and 60 per cent pentane in the butane-free base. Its characteristics are 62 per cent off at 100, 82 per cent at 140, 29.6 pounds Reid vapor pressure, and distillation loss of 8 per cent. This, you will notice, is a high volatile natural, falling just about on our 10 plus one-third vapor pressure line and having average "AA" characteristics except for high gravity.

Blending this gasoline with our naphtha to a 15 per cent blend gives us a corrected 10 per cent point of 120 degrees and a Reid vapor pressure of 11.2 pounds. Our Q natural has 30 per cent butane and 50 per cent pentane in the butane-free base. Its characteristics are 47 per cent at 100, 73.5 per cent at 140 and 24.2 pounds Reid vapor pressure. This gasoline, blended with our naphtha in a 10 per cent blend, gives us a corrected 10 per cent point of 146 degrees and a vapor pressure of 7.2 pounds. These two finished blends might, I believe, be considered excellent summer and winter fuels.

The blends considered so far, if accepted at their face value, show several things of interest. First, high vapor pressure natural, whether due to reduced pentane content or increased propane content, will not permit sufficient percentage blend to give us conditions we frequently desire on heavy naphtha without running into trouble due to vapor pressure with consequent vapor lock in the motor fuel performance. Second, high pentane-base stocks are useful in effecting the 35 per cent point and consequent motor performance, in acceleration and ease of warming up. Third, it is useful to use a high volatile natural gasoline for blending for winter fuel where rather high vapor pressure is not necessarily a detriment to the finished fuel. Fourth, in blending to summer fuel, care should be exercised that the natural is a low vapor pressure and not too excessive in its volatility as expressed by the 100-degree Fahrenheit point. Admittedly, the few examples given do not prove the case. They are mentioned for the purpose of pointing out a few of the salient points by the use of exaggerated examples.

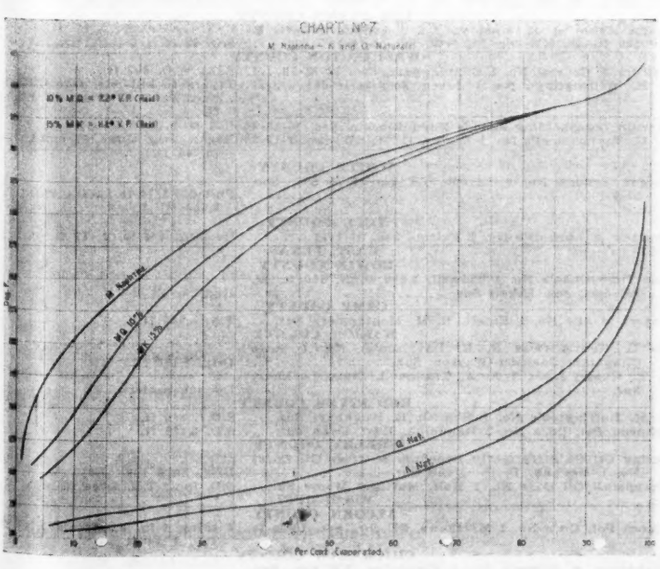


Chart No. 7.

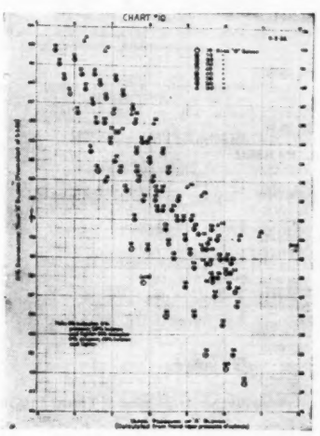


Chart No. 10.

These exaggerated examples may be said to overemphasize the importance of pentane content in the finished blend. On the other hand they do show definite trends which are important to us, particularly, if we use natural in blending to close limits on our motor fuel. In other words, if our base stock. or naphthas, which we are going to blend, limit us to close control of the 10 per cent point and the vapor pressure, then the type of natural selected for such blending has an important bearing on whether or not the blending operations will be successful.

Research Program

The N.G.A. research program laid out and carried through a series of blends of 15 per cent natural and 85 per cent fixed naphtha. The chairman of the technical committee, Mr. Davidson, has already reported the information derived from these blends. In connection with some of the statements already made in this paper, it is interesting to note, trend curves taken from the data compiled by the association. Chart No. 10, as made up by the technical committee, shows

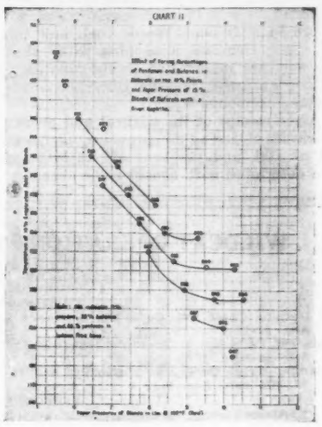


Chart No. 11.

the definite 10 per cent evaporated temperature of the A.S.T.M. distillation and the vapor pressures in pounds Reid of finished blends of 15 per cent natural with a fixed naphtha base. My chart does not show the colors representing the different pentane bases but that has already been covered by Mr. Davidson.

From the data on Chart No. 10, we have made up Chart No. 11 which shows quite clearly the effect of decreasing pentane content with corresponding increasing butane content in the natural from which the blends are made. You will notice that the 10 per cent point lowers uniformly with an increase in vapor pressure as we increase butane and decrease pentane up to the point where we have 30 per cent butane in the natural. From 30 per cent upward it will be noted that practically the only change made in the finished blend is to increase the vapor pressure. This point was covered previously in our low pentane content natural blend with our M naphtha, but the single instance cited, of course, does not prove the case.

The exhaustive work done by the technical committee of the N.G.A., however, can be taken as conclusive and shows very distinctly the desirability of using high pentane base natural for summer blending requirements and the permissibility of high butane stocks for winter blending. As a guide in blending, we have found in correlating the blended products with the components of the blend that within very close limits the percentage evaporated at any temperature can be calculated from the percentage evaporated in the two components.

For instance, a naphtha having 20 per cent evaporated at 200° blended with a natural which has 85 per cent evaporated at 200° permits us to calculate the per cent evaporated in the finished blend. Ten per cent of the natural will give us 8.5 per cent evaporate and 90 per cent of the naphtha will give us 18 per cent evaporated at 200° F. The two added give us 26.5 per cent evaporated at 200°. In practice blends will be found to follow this rule with remarkable accuracy. In the same way, we can calculate in advance the vapor pressure of the finished blend by using the molecular percentage of the natural times its vapor pressure plus the molecular percentage of the naphtha, multiplied by its vapor pressure. Results of such calculations will be found to check actual practice

closely within the error inherent in our Reid vapor pressure apparatus.

Summary

We can now sum up the situation as follows: Given the Reid vapor pressure and the percentage off at 100 on a natural which is to be used for blending, we can check this specification and find out whether or not the vapor pressure is properly in line with the percentage off at 100. If we find it to be so, we know that we have a natural which does not contain appreciable amounts of propane nor appreciably reduced amounts of pentane. If this is the case, we are safe in assuming that this natural can be used to blend to any type of specification we desire in a finished motor fuel, and the only criterion we need observe is that the per cent off at 100, or the volatility, is not excessive for the seasonal blending requirements.

After receipt of the natural and proper checking of its vapor pressure, per cent off at 100, and per cent off at 140, we can determine with considerable accuracy the percentage of components although such determination is not necessary for intelligent blending. The only necessities are the vapor pressure and the distillation curve, both of which can be used against the vapor pressure and distillation curves of our original naphtha to calculate the characteristics of our finished motor fuel.

If we are working to close specifications on a finished motor fuel, then we can calculate the points which are fixed in our specifications with considerable degree of accuracy, and the only necessary adjustment of the distillation curve on the synthetic blend as calculated may be to raise the slope of the front end of the distillation curve slightly.

These calculations have been used by several companies in the Mid-Continent Field for some time with entire success. I believe we are entirely safe in saying that it is impossible, by these methods to prophesy within the limits of error of our check methods the actual distillation points all along the curve.

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

(Continued from Page 46)

CLAIBORNE PARISH

El Dorado Chief Oil Co.'s No. 1 Dance, C SW NE, Sec. 27-20-7 ..... S.D. 2,240 ft.
Leue Oil Co.'s No. 1 Taylor, 1,153 ft. S, 360 ft. W, C, Sec. 16-22-6 ..... S.D. 2,864 ft.
Triangle Drlg. Co.'s No. 2 Caskey, 660 ft. N, 660 ft. W, SE cor., Sec. 6-19-5 ..... Drlg. 3,932 ft.

CONCORDIA PARISH

A. C. Glassell's No. 1 Pittsfield Plantation, N 9°, E 1,320 ft., SW cor., Sec. 41-8-10 ..... Cmtd. 8-in. 1,370 ft; T.D. 1,392 ft.
Joe Marr et al's No. 1 Maxwell, C, Sec. 35-3n-8e ..... S.D. 2,820 ft.

DE SOTO PARISH

Benson Oil Co.'s No. 1 Harris, Sec. 6-10-13 ..... Tested dry; show gas; W.O. 2,650 ft.
Joe Burnham et al's No. 1 Mary Hood, 320 ft. W, 201 ft. S, NE cor. SE NE, Sec. 3-11-14 ..... Location.
Odell & Lawton's (was L. A. Crump's) No. 1 Harris, 300 ft. N, 300 ft. E, SW cor. NW SE, Sec. 11-13-14.. D.S. test 2,750-3,150 ft; 3,000,000 ft. gas; cmtng. bottom and set 6-in.
Bud Harrell's No. 1 Horton, 450 ft. E, 150 ft. N, SW cor., Sec. 4-11-11 ..... Began drlg. Apr. 30; cmtd. 10-in 130 ft.; S.D. 350 ft.
H. L. Hunt's No. 1 Furman, Sec. 5-14-13 ..... Drlg. 800 ft.
R. O. Roy's No. 1 Nelson, 660 ft. S, 660 ft. E, NW cor., Sec. 36-15-13 ..... Rig up.

EAST CARROLL PARISH

La. Gas & Fuel Co.'s No. 1 Hicks, 1,320 ft. N, 759 ft. W, SE cor., Sec. 12-19-10 ..... Derrick.

FRANKLIN PARISH

Davis et al's No. 1 Moore, 600 ft. W, 200 ft. S, NE cor., Sec. 12-11-6 ..... S.D. 1,430 ft.

JACKSON PARISH

El Dorado Chief O. & G. Co.'s No. 1 Sou. Advance Paper Bag Co., 225 ft. N, 275 ft. E, SW cor. SW NE, Sec. 35-15-4 ..... Drlg. 700 ft.

LINCOLN PARISH

Ark. Fuel Oil Co.'s No. 1 Lewis & Co., 300 ft. N, 300 ft. W, SE cor. NW SE, Sec. 26-20-4 ..... Rig up.

MOREHOUSE PARISH

Ruston Drlg. Co.'s No. 1 Tucker & Platt, 660 ft. N, 860 ft. W, SE cor, NE, Sec. 8-20-6 ..... Rig up.

NATCHITOCHES PARISH

W. M. Coats' No. 1 Collins, 730 ft. N, 50 ft. E, C, Sec. 28-9-10 ..... Began drlg. May 3; cmtd. 12½-in. 150 ft.; S.D. for title work.
S. D. McDaniel's No. 2 Clark & Morse, 800 ft. E, 350 ft. N, C, Sec. 23-5-6 ..... Tested 1,000,000 ft. gas and S.W. 3 ft.; S.D. for orders; T.D. 2,526 ft.
Robeline O. & G. Co.'s No. 1 Winn, 558 ft. N, 348 ft. E, SW cor. SE, Sec. 7-8-9 ..... S.D. 1,600 ft.

RAPIDES PARISH

Ayers Bros.' No. 1 Wickliff, 2,790 ft. N, 150 ft. E, SW cor., Sec. 9-5n-3e ..... S.D. for fuel 2,650 ft.

RED RIVER PARISH

W. D. Ball's No. 1 Krumholtz, 660 ft. S, 660 ft. E, NW cor., Sec. 32-14-10 ..... Tested S.W. and show oil 6 ft sand 1,700 ft.; W.O.
E. C. Lucas' No. 1 La. Pecan Co., Sec. 26-13-11 ..... S.D.; W.O. 782 ft.
Geo. L. Pace et al's No. 1 Clarkson, 200 ft. S, 200 ft. E, NW cor. NE, Sec. 30-12-9 ..... Rig up.

RICHLAND PARISH

Austin & McDonald's No. 1 Hunt, 594 ft. N, 660 ft. E, SW cor., Sec. 13-17-5 ..... Derrick.
Austin & McDonald's No. 2 Millsaps, SW cor., Sec. 17-17-6 ..... Waiting orders; T.D. 2,657 ft.
Austin & McDonald's No. 3 Millsaps, 1,980 ft. S, 660 ft. E, NW cor., Sec. 16-17-6 ..... Tested S.W.; W.O. 2,477 ft.
Austin & McDonald's No. 4 Millsaps, NW cor., Sec. 16-17-6 ..... Location.
Austin & McDonald's No. 5 Millsaps, 2,640 ft. N, 1,320 ft. W, SE cor., Sec. 8-17-6 ..... Derrick.
W. C. Feazel's No. 1 Landrum, 620 ft. N, 4,573 ft. E, SW cor., Sec. 6-16-7 ..... Derrick.

SABINE PARISH

Boone, trustee's No. 1 J. B. Hill, NE, Sec. 4-6-11 ..... (No check); derrick.
Longoria et al's No. 1 Belton, 330 ft. S, 330 ft. E, C, NE, Sec. 31-9-13 ..... Rig up.
Loring Oil Co.'s No. 1 Peavy-Wilson Lbr. Co., 200 ft. S, 330 ft. W, NE cor. SW NE, Sec. 21-6-13 ..... Coring hard shale 3,015 ft.
Lohman et al's No. 1 Wyatt Lbr. Co., 150 ft. S, 330 ft. E, NW cor. NE SW, Sec. 18-4-11 ..... Rig up.
J. C. McDaniel & Lieber's No. 1 Batson, 675 ft. N, 318 ft. E, SW cor. SE, Sec. 16-18-12 ..... Arranging to cmt. 8¼-in. 2,304 ft
Paramount O. & G. Co.'s No. 1 Woolems, 330 ft. N, 330 ft. W, SE cor. NE NW, Sec. 11-6-12 ..... S.D. 1,656 ft.
Pelican Nat. Gas Co.'s No. 2 Sabine Lbr. Co., 350 ft. S, 350 ft. E, C, Sec. 16-7-12 ..... Cmtd. 12-in. 103 ft; drlg. 294 ft.
Pelican O. & G. Co.'s No. 2 La. Long Leaf Lbr. Co., C, NE, Sec. 20-7-12 ..... Cmtd. 6⅝-in. 2,695 ft.
D. H. Riddick's No. 1 Scretchfield, 400 ft. E, 400 ft. N, SW cor. NW SE, Sec. 18-9-12 ..... Drlg. shale 2,610 ft.
San Miguel Oil Corp.'s No. 1 Blankenship, 660 ft. N, 660 ft. E, SW cor. SE, Sec. 20-9-11 ..... Derrick.
Teteco Oil Corp.'s No. 1 La. Long Leaf Lbr. Co., 325 ft. S, 100 ft. W, NE cor. NW, Sec. 18-6-12 ..... Drlg. black shale 2,800 ft.

TENSAS PARISH

A. R. Willis et al's No. 1 Currey, 1,320 ft. S, 1,320 ft. E, NW cor., Sec. 29-11-12 ..... Cmtd. 8-in. 1,830 ft.

WEBSTER PARISH

J. J. Kean's No. 1 Monzingo (was F. M. Fuller's), 200 ft. N, 300 ft. W, SE cor., Sec. 17-18-8 ..... Cored broken lime 2,720 ft.

ARKANSAS

ASHLEY COUNTY

J. D. Marcum Co.'s No. 1 McGarry, 300 ft. W, 100 ft. S, C, Sec. 10-19-4 ..... O.W.D.D.; arranging to deepen; T.D. 3,300 ft.

CALHOUN COUNTY

Tidal Oil Co.'s No. 1 Freeman-Smith Lbr. Co., 150 ft. C S line, NE NW, Sec. 3-16-14 ..... Rig up.

CLEBURNE COUNTY

Cosden Oil Co. of Ark.'s No. 1 Donophan, 100 ft. S, 660 ft. E, NW cor. SW SE, Sec. 19-9-10 ..... Drlg. 3,425 ft.
Donnelly-Craver et al's No. 1 Doniphan Lbr. Co., SE cor. NW, Sec. 33-11-9 ..... Fishing for tools 960 ft.

COLUMBIA COUNTY

S. Y. Dorfman et al's No. 1 Merritt, 923 ft. S, 160 ft. W, NE cor. SE NW, Sec. 25-19-22 ..... Derrick.
Parker et al's No. 1 Franks, 330 ft. S, 330 ft. W, C, Sec. 25-19-22 ..... S.D. 2,835 ft.
J. K. Woodley's No. 1 Longino, 300 ft. E, 330 ft. S, NW cor., Sec. 32-18-22 ..... Rig up.

DREW COUNTY

McClintock & Goodka's No. 1 Ogles, 920 ft. W, 400 ft. S, NE cor., Sec. 35-13-5 ..... S.D.; W.O. 2,625 ft.

FRANKLIN COUNTY

Red Bank Oil Co.'s No. 1 Edtin, SW cor., Sec. 33-10-26.. Tested 1,000,000 ft. gas 1,317 ft. and 1,576 ft; drlg. 1,585 ft.

GARLAND COUNTY

Givens et al's No. 1 Garrett, 660 ft. S, 660 ft. W, C, Sec. 1-3-19 ..... S.D.; W.O. 3,804 ft.

LITTLE RIVER COUNTY

A. L. Buck's No. 1 Greason, NW NW, Sec. 25-12-32 ..... Coring sandy lime 2,376 ft.
McDonald & Shaw's No. 1 W. E. Black, 240 ft. N, 450 ft. W, SE cor. SE NE, Sec. 12-13-28 ..... Arranging to set 6⅝-in.; T.D. 1,180 ft.

LOGAN COUNTY

J. H. Flowers' No. 1 J. H. White, Sec. 13-6-26 ..... S.D; W.O. 3,610 ft.

MADISON COUNTY

J. W. Baxter's No. 1 Hallem, C NE SW, Sec. 17-16-26.... Location.

OUACHITA COUNTY

Anderson & Wimmer's No. 1 Buck, Sec. 7-15-17 ..... Sidetracking D.S; T.D. 2,735 ft.

PIKE COUNTY

Theo. Davis, trustee's No. 1 Ruth Wilson, 200 ft. S, 200 ft. W, NE cor., Sec. 25-5-26 ..... Fishing 700 ft.; S.O.

POPE COUNTY

Cosden Oil Co.'s No. 1 Mo. Pac. R.R., 660 ft. N, 660 ft. E, SW cor. NW SE, Sec. 13-9-19 ..... Drlg. sand 4,265 ft.

SCOTT COUNTY

Heavener O. & G. Co.'s No. 1 Riser, Sec. 36-4-26 ..... Tested show of gas 1,508 ft; S.D; W.O. 1,520 ft.

SEBASTIAN COUNTY

M. W. Greeson's No. 1 Spears, Sec. 9-7-29 ..... Drlg. 840 ft.
Lavaca O. & G. Co.'s No. 9 Cason, Sec. 21-8-30 ..... Drlg. 1,350 ft.
Mansfield Gas Co.'s No. 14 fee, Lot 10, Sec. 1-4-31 ..... Location.

ST. FRANCIS COUNTY

Brownlee Drlg. Co.'s No. 1 Whitted, 110 ft. N, 110 ft. E, SW cor. SE NW, Sec. 28-4-1 ..... S.D; W.O. 2,740 ft.

UNION COUNTY

Ark. Nat. Gas Corp.'s No. 1 Burns, 330 ft. E, 400 ft. N, SW cor. NE NW, Sec. 14-18-17 ..... S.W. 2,028-34 ft; drlg. 2,646 ft.
Carter et al's No. 1 Burnside, 320 ft. W, 150 ft. S, NE cor. SE NE, Sec. 13-18-14 ..... Drlg. 1,547 ft.
O. W. Estes' No. 1 Telford, 320 ft. S, 320 ft. E, NW cor. SW, Sec. 35-17-14 ..... Bailing to test 24-ft. sand; T.D. 2,906 ft.
S. B. Hickman's No. 1 Hogg, 330 ft. S, 150 ft. E, NW cor. SE SE, Sec. 35-16-17 ..... Coring 1,975 ft.
H. L. Hunt's No. 1 Trummell, 240 ft. S, 330 ft. E, NW cor. SW NW, Sec. 28-18-12 ..... D.S. test 3,414 ft; 5,000,000 ft. gas and spray S.W; cored S.W. sand 3,414-29 ft; coring.
Marine Oil Co.'s No. 2 Simmons, 300 ft. N, 300 ft. E, SW cor. SE NW, Sec. 10-18-13 ..... Rig up.
Marine Oil Co.'s No. 3-B Winn, 330 ft. S, 330 ft. W, NE cor., Sec. 10-18-12 ..... Drlg. red beds 3,377 ft.
Modisette Drlg. Co.'s No. 4 Union Sawmill, 300 ft. W, 300 ft. N, SE cor., Sec. 14-18-14 ..... Location.
J. W. Olvey's No. 1 G. G. Simmons, 288 ft. S, 288 ft. W, NE cor. NE NW, Sec. 15-18-13 ..... Cmtd. 6⅝-in. 2,233 ft; drilled to 3,563 ft.; plugged back to 3,276 ft.
Simms Oil Co.'s No. 1 G. G. Simmons, 200 ft. S, 200 ft. W, NE cor. SW, Sec. 10-18-13 ..... T.A. full S.W.; T.D. 3,535 ft.
Southern Crude O. P. Co.'s No. 1 Oliver, 330 ft. N, 330 ft. W, SE cor. NE, Sec. 11-18-13 ..... Drlg. lime 3,148 ft.
South El Dorado Oil Co.'s No. 1 Traylor, 330 ft. N, 188 ft. W, SE cor. NW NE, Sec. 9-19-15 ..... Cmtd. 6-in. 2,163 ft.

VAN BUREN COUNTY

Glenn Kohle et al, trustee's No. 1 Scalan, 200 ft. S, 200 ft. W, NE cor. SE NW, Sec. 5-19-13 ..... S.D. 50 ft.

WASHINGTON COUNTY

Delbert & Graves' No. 1 Cunningham, Sec. 14-15-32 ..... S.D.; W.O. 602 ft.
C. H. Willoughby's No. 1 Jones, Sec. 34-16-30 ..... Trying to kill wtr. flow 2,150 ft; hard sand showing oil 1,627-40 ft.
Lincoln Leaseholding Synd.'s No. 1 Lincoln, Sec. 30-15-32. U.R. 8-in. to T.D. 1,500 ft.
H. H. Taylor et al's No. 1 Runny, C NE SW, Sec. 1-13-29. Began drlg. June 3; cmtd. 12¼-in. 45 ft.

WHITE COUNTY

Letona Synd.'s No. 1 Letona, SE cor. NW SW, Sec. 35-9-8 ..... Pulled 5 3/16-in.; S.D.; W.O.; T.D. 3,650 ft.

YELL COUNTY

Tegmeir & Luckett's No. 1 Falcon, Sec. 36-1-21 ..... Recmtd. 6⅝-in. 2,577 ft.; C.D.

EAST TEXAS

BOWIE COUNTY

Lee Timberlake's No. 1 Tidwell, 2,800 ft. N, 300 ft. W, SE cor., Jos. Eskell Sur. ..... Rigging up.

CAMP COUNTY

Rogers et al's No. 1 Enfelt, R. M. Montgomery Sur..... T.A. 3,045 ft.

MARION COUNTY

H. L. Hunt's (was R. E. Davidson's) No. 1 Susie Chapman, Jackson-Grayson Sur. ..... Drlg. 3,190 ft.
P. E. Hussey's No. 1 A. A. Trammell, Chas. Lockhart Sur. ..... Derrick pattern.

RED RIVER COUNTY

D. M. Buffington's No. 1 Hossler, E. Hughhart Sur. .... S.D. 2,865 ft.
Johnson Pet. Co.'s No. 2 Randolph, Edw. Dean Sur. .... S.D. 2,152 ft.

SHELBY COUNTY

Loring Oil Co.'s (formerly Benedum & Trees Oil Co.'s) No. 1 McCann, D. G. Green Sur. ..... Drlg. hard lime 4,440 ft.
Chapperall Oil Co.'s No. 3 Holt, Matthew Moore Sur.... S.D. fuel; T.D. 3,300 ft.

MISSISSIPPI

ALCORN COUNTY

Alcorn Pet. Co.'s No. 1 Matthews, SE cor., Sec. 14-2s-7e.. Fishing 6-in. and tools 3,393 ft.; T.D. 3,735 ft.

CHICKASAW COUNTY

Hightower & Golson's No. 1 Flemming, NE cor., Sec. 20-13-3 ..... Driving 8¼-in. 1,400 ft.

HINDS COUNTY

Oscar Brown's No. 1 Riverside (formerly Hennessee et al's), SE cor. SE SW, Sec. 23-16-5.....Set 12½-in. 30 ft.; S.D. 1,050 ft.
Cane River Oil Co.'s No. 1 Lufkin, Sec. 15-5-1e.....Derrick.
Dome Oil Co.'s No. 1 Elton, NE cor. NE SW, Sec. 5-4-1e..Drlg. 1,387 ft.
Jackson Oil Co.'s No. 1 Central Cotton Oil Co., NW cor. SW NW, Sec. 3-5-1e.....Derrick.
Jackson O. & G. Co.'s No. 1 Taylor, SE cor. SE, Sec. 35-6-1e .....Cored sand and shale 2,935-43 ft.
Love O. & G. Co.'s No. 1 Bridges-Hilzim, 870 ft. N, 920 ft. W, SE cor., Sec. 35-6-1e.....Began drlg. Apr. 28; W.O.
Love O. G. Co.'s No. 2 Mendoza, Sec. 12-5-1e .....Derrick.
Ohio Oil Co.'s No. 1 School, SE cor. N½ NE NE, Sec. 16-5-1e .....Derrick.
Progressive Oil Co.'s No. 1 Mayes, C NE NE, Sec. 2-5-1e. Derrick.
Mrs. Reeder et al's No. 1 State, SE cor. NW NW, Sec. 25-6-1e .....W.O.; T.D. 2,905 ft.
Tri-State O. & G. Co.'s No. 1 Wilson, SW cor. SE NE, Sec. 23-6-1e .....Derrick.
J. A. Weir et al's No. 1 Holliday & Ross, NW SE, Sec. 8-6-2e .....Derrick.

HUMPHREYS COUNTY

E. S. Steele et al's No. 1 C. B. Box, SE cor. SE NE, Sec. 25-14-4w .....Set 12½-in. 60 ft.; S.D.

LAUDERDALE COUNTY

Lauderdale O. & G. Co.'s No. 1 Lackey, 990 ft. S and E, NW cor. NE, Sec. 2-7-16.....Tested S.W. 3,252 ft.
Meridian O. & G. Co.'s No. 1 Hauser, Sec. 33-8-18.....S.D.; W.O.; sandy shale 2,826 ft.
J. R. Smith Oil Co.'s No. 1 C. F. Craig, Sec. 2-16-14.....Derrick.

LAFAYETTE COUNTY

Banks-Goode et al's No. 1 May 113½ rds. S, 26 rds. E, NW cor. SW, Sec. 22-10-1w.....Derrick.

LINCOLN COUNTY

Lincoln O. & G. Co.'s No. 1 Pat Case, NE NE, Sec. 21-8-6 .....S.D.; W.O. 2,221 ft.

MONROE COUNTY

Amory Dev. Co.'s No. 1 Bourland, Sec. 2-13-19.....S.D. 2,912 ft.; bailer lost in hole.
Amory Pet. Co.'s No. 1 Hall, Sec. 8-13-19.....Shot 2,402-18 ft.; small show oil, arranging to shoot 2,387-95 ft.
Park Bowser et al's No. 1 Cowart, second hole, Sec. 2-12-19 .....S.D. 30 ft.

RANKIN COUNTY

Gulf Ref. Co.'s No. 1 Rainey, NW NW, Sec. 13-5-1e.....Coring 3,380 ft.
R. A. More et al's No. 1 Interior Lbr. Co., Sec. 28-6-1e..Drlg. 900 ft.
Interior Oil Co.'s No. 1 Moore, 660 ft. N, 660 ft. W, SE cor. NW NW, Sec. 28-6-2e.....S.D. 900 ft.
Pearl River O. & G. Co.'s No. 1 Littlefield, SE NE, Sec. 12-5-1e .....Began drlg. May 19; S.D. 50 ft.

WARREN COUNTY

El Dorado Oil Co.'s No. 1 Dornbush, Sec. 8-18-15.....S.D. 2,475 ft.; 2,350 ft. D.S. in hole; W.O.

YALOBUSHA COUNTY

Carter Oil Co. and J. D. Collett's No. 1 Blackmur, 330 ft. S, 990 ft. W, Sec. 14-11-4.....Cored hard sandy shale 2,434 ft.; claim small show gas.

YAZOO COUNTY

Amerada Pet. Corp.'s No. 1 Doherty, SW SW, Sec. 24-12-2 .....Drlg. sandy lime 5,133 ft.

ALABAMA

LAMAR COUNTY

Briggs & Knapp's No. 1 Wefel, Sec. 25-12-14.....T.A. 1,740 ft.

LAUDERDALE COUNTY

A. D. Morton et al's No. 10 O'Neal est., Sec. 8-2s-13w...Cmtd. 12½-in. 125 ft.; drlg. hard lime 905 ft.

MARION COUNTY

Hobson et al's No. 1 John Clark, SE, Sec. 29-11-14.....Derrick pattern.

WASHINGTON COUNTY

S. A. Hobson's No. 1 Hobson Bros., Sec. 9-8-2.....S.D.; W.O. flow at 1,450 ft.
S. A. Hobson's No. 1 Wilson, Sec. 27-7-1.....Fishing bailer; T.D. 881 ft.
Oscar Brown's No. 2 Land & Cotton Co., Sec. 25-3-2w...Drlg. 700 ft.

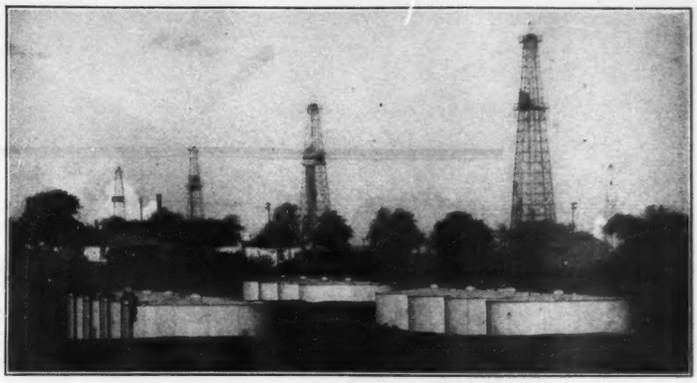
LOUISIANA-ARKANSAS PROVEN AREAS

(Continued from Page 46)

H. L. Hunt's (was Love et al's) No. 1 Allen, SE cor. NE NE, Sec. 30-23-11 .....W.O. 3,482 ft.
H. L. Hunt, Inc.'s No. 5 J. W. Peyton, 990 ft. W, 330 ft. S, NE cor. SE, Sec. 25-23-12.....Location.
H. L. Hunt, Inc.'s No. 7 J. W. Peyton, 990 ft. S, 990 ft. E, C, Sec. 25-23-12.....Location; reported drlg. in error.
H. L. Hunt, Inc.'s No. 8 J. W. Peyton, 990 ft. E, 330 ft. S, C, Sec. 25-23-12.....Location.
H. L. Hunt, Inc.'s No. 9 J. W. Peyton, 330 ft. S, 330 ft. E, C, Sec. 25-23-12.....W.O.S.R; 100 ft. oil; T.D. 3,222 ft.
H. L. Hunt, Inc.'s No. 10 J. W. Peyton, 990 ft. S, 330 ft. E, C, Sec. 25-23-12 .....500 ft. fluid; W.O.S.R; 3,176 ft.
Magnolia Pet. Co.'s No. 2 Matlock, 330 ft. S and W, NE cor. SE SW, Sec. 25-23-12.....W.O.S.R. 3,188 ft.
Magnolia Pet. Co.'s No. 3 Matlock, 330 ft. N, 330 ft. W, SE cor. SE SW, Sec. 25-23-12.....Cmtd. 8⅝-in. 3,132 ft; T.D. 3,179 ft.
Magnolia Pet. Co.'s No. 2 Roberson, 330 ft. S, 330 ft. E, NW cor. SW NE, Sec. 26-23-12.....Derrick.
Nat. Drlg. & Prod. Co.'s (was Lide et al's) No. 1 Matlock, 2,970 ft. S, 990 ft. E, NW cor., Sec. 26-23-12....D.S. test 2,959 ft; dry; cored sand 3,140-43 ft; arranging D.S. test 3,163 ft.
Nat. Gas Prod. Co.'s No. 3 U. S. Govt., 1,520 ft. S, 2,580 ft. E, NW cor., Sec. 31-23-11.....Drlg. 2,350 ft.
Nat. Gas Prod. Co.'s No. 4 U. S. Govt., 2,440 ft. S, 2,580 ft. E, NW cor., Sec. 31-23-11.....Location.
The Texas Co.'s No. 1 Peyton, 660 ft. N, 330 ft. E, SW cor., Sec. 30-23-11 .....O.W.D.D; comp. Feb. 19, 1928; 40,000,000 ft. gas; 2 ft. sand; T. D. 3,076 ft; drlg. sandy shale 3,103 ft.
The Texas Co.'s No. 2 Peyton, 990 ft. N, 330 ft. W, SE cor., Sec. 25-23-12 .....W.O.S.R. 3,195 ft.
The Texas Co.'s No. 5 Peyton, 330 ft. N, 330 ft. W, SE cor., Sec. 25-23-12 ..... Began drlg. June 3; cmtd. 10-in. 320 ft.
The Texas Co.'s No. 7 Peyton, 1,090 ft. N, 150 ft. E.
The Texas Co.'s No. 1 Hy. Rose, 940 ft. E, 450 ft. N, C, Sec. 31-23-11 .....O.W.D.D; waiting on rig; T.D. 2,680 ft.
The Texas Co.'s No. 4 Hy Rose, 1,000 ft. N, 330 ft. E, C, Sec. 31-23-11 .....Derrick.
The Texas Co.'s No. 9 Wilkinson, 990 ft. N, 330 ft. E, C, Sec. 36-23-12 .....Began drlg. June 3; cmtd. 10-in. 360 ft.
The Texas Co.'s No. 10 Wilkinson, 250 ft. N, 330 ft. W, SE cor. NE, Sec. 36-23-12.....Location.
The Texas Co.'s No. 11 Wilkinson, 990 ft. W, 230 ft. N, SE cor. NE, Sec. 36-23-12.....Derrick.
Tippett Drlg. Co.'s No. 3 Holmes, 330 ft. N, 330 ft. E, SW cor. NE NW, Sec. 36-23-12.....Began drlg. May 29; cmtd. 10-in. 306 ft; drlg. 1,850 ft.
Woodley et al's No. 1 Roberson, 330 ft. N, 330 ft. W, SE cor. SW NE, Sec. 22-23-12 .....Surface csg. collapsed; W.O; T.D. 1,500 ft.

BOSSIER PARISH—SLIGO

La. G. & F. Co.'s No. 6 Thigpen-Herold, 660 ft. S, 1,980 ft. E, NW cor., Sec. 13-17-12 .....Cmtd. 12½-in. 285 ft; drlg. 2,023 ft.



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La. Gas & Fuel Co.'s No. 7 Thigpen & Herold, 660 ft. N, 660 ft. E, SW cor., Sec. 19-17-11.....Location.

CADDO PARISH—DIXIE

D. C. Richardson's No. 1 Oden, 330 ft. S, 330 ft. W, C, Sec. 18-19-14 .....S.D; high wtr; T.D. 2,620 ft.

CADDO PARISH—GREENWOOD

Ark.-La. P. L. Co.'s No. 1-B Brumble, 330 ft. S, 1,280 ft. E, NW cor., Sec. 18-16-16 .....Cored hard lime 3,440 ft.
Calatex O. & G. Co.'s No. 1 Edgar, 1,460 ft. S, 1,900 ft. E, NW cor., Sec. 17-16-16.....Location.
Calatex O. & G. Co.'s No. 1 McAnn-Alfred, 1,810 ft. S, 970 ft. E, NW cor., Sec. 17-16-16.....Location.
Calatex O. & G. Co.'s No. 1 Hudson, 2,395 ft. N, 660 ft. E, SW cor., Sec. 8-16-16.....Location.
Calatex O. & G. Co.'s No. 2 Taylor-Trosper, 45 ft. N, 1,220 ft. E, SW cor., Sec. 8-16-16.....Location.

CADDO PARISH—MOORINGSPORT

Falcon Oil Co.'s No. 4 Muslow, 200 ft. W, 1,270 ft. S, NE cor., Sec. 29-20-15 .....Rig up.

CADDO PARISH—OIL CITY

The Texas Co.'s No. 3 Leonard fee, 2,440 ft. W, 576 ft. S, NE cor., Sec. 29-20-15.....Drlg. 2,300 ft.
Gulf Ref. Co.'s No. 27-A Levee Board, 2,005 ft. S, 200 ft. W, NE cor. NW, Sec. 34-21-16.....700 ft. oil; W.O.S.R; T.D. 1,833 ft.
Gulf Ref. Co.'s No. 28-A Levee Board, 210 ft. S, 200 ft. E, NW cor., Sec. 34-21-16.....Location.
P. T. Mize's No. 1-A La. Oil Ref. Corp., 662 ft. N, 175 ft. E, SW cor., Sec. 6-20-15.....Flowed 15 bbls. through 6-in. after shot at 1,475 ft; W.O.S.R; T. D. 1,485 ft.
P. T. Mize's No. 2 La. Oil Ref. Co., 200 ft. N, 200 ft. E, SW cor., Sec. 6-20-15 .....Derrick.
The Texas Co.'s No. 73 Levee Board, 1,642 feet, E, 780 ft. N, SW cor. SW SE, Sec. 27-21-16.....Location.

CADDO—PINE ISLAND

Tholl Oil Co.'s No. 12 Bashara, 300 ft. S, 100 ft. W, NE cor. NW, Sec. 23-21-15.....Bailing to test show oil and gas; T.D. 1,640 ft.

DE SOTO PARISH—HOLLY

Ark. Fuel Oil Co.'s No. 2 Scott, 330 ft. N, 330 ft. E, SW cor. SE NE, Sec. 32-14-13.....Cmtd. 6⅝-in. 2,743 ft; T.D. 2,781 ft.
W. C. Chart et al's No. 1 Nabors, NW cor. SE NW, Sec. 17-13-13 .....Derrick.
Lacy Oil Co.'s No. 1 G. W. Sample, 300 ft. S, 300 ft. W, NE cor. NW NE, Sec. 1-13-14 .....Rig up.
Frank Melat, Inc.'s No. 1 Schryver, 175 ft. E, 175 ft. N, SW cor. NW SW, Sec. 35-14-13.....Base chalk 1,932 ft; S.D. 1,940 ft.
Standard Oil Co.'s No. 1 Brooks (was R. O. Roy's), 660 ft. S, 660 ft. W, NE cor. NW, Sec. 8-13-13.....Drlg. shale 2,730 ft.
Standard Oil Co.'s No. 1-B Farmer (was R. O. Roy's) 660 ft. S, 660 ft. E, NE SW, Sec. 13-13-13.....Base chalk 1,930 ft; drlg. shale 2,400 ft.
Standard Oil Co.'s No. 1-C Farmer, 330 ft. N, 330 ft. E, SW cor. SE, Sec. 32-14-13.....Drlg. 2,250 ft.
Standard Oil Co.'s No. 1-D Farmer (was R. O. Roy's), 330 ft. N, 330 ft. E, SW cor. SE, Sec. 32-14-13.....Derrick.
Standard Oil Co.'s No. 2 Jessie Fuller (was R. O. Roy's), 660 ft. S, 660 ft. E, NW cor. SE, Sec. 6-13-13 Rig up.
Standard Oil Co.'s (was R. O. Roy's) No. 1 C. C. Fuller, 330 ft. S, 330 ft. W, NE cor. SE NW, Sec. 5-13-13....Top sand 2,834 ft; coring 2,846 ft.
Standard Oil Co.'s No. 2 Lee, SW, Sec. 33-14-13.....(No check); derrick.
Standard Oil Co.'s No. 1 McClanahan, 380 ft. S, 330 ft. W, NE cor. SE, Sec. 8-13-13.....Drlg. chalk 1,926 ft.
Standard Oil Co.'s No. 1 McGee (was R. O. Roy's), 660 ft. N, 660 ft. W, C, Sec. 8-13-13.....Cmtd. 10-in. 230 ft; drlg. 1,225 ft.
Standard Oil Co.'s No. 1-A Parker (was R. O. Roy's), C SW NW, Sec. 5-13-13.....Top sand 2,836 ft; dry 2,841 ft; 300 ft. oil 2,400 ft; S.W. 2,852 ft; arranging to plug back.
Standard Oil Co.'s No. 1-B Parker Bros. (was R. O. Roy's), 660 ft. N, 660 ft. W, SE cor., Sec. 31-14-13..Arranging to test 2,847 ft; C.O.
Standard Oil Co.'s No. 1 H. B. Sample (was R. O. Roy's), 660 ft. W, 660 ft. S, NE cor., Sec. 7-13-13....Drlg. 1,675 ft.

LA SALLE PARISH—URANIA

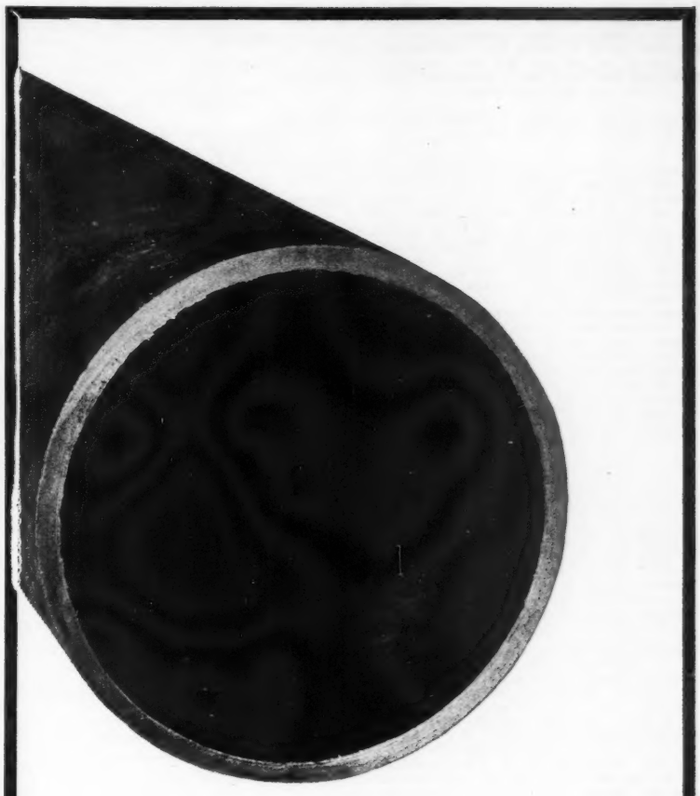
Kinney, Hardtner & Randall's No. 1 Kinney, SW SW, Sec. 7-10-2e .....S.D. 1,570 ft.
La. Oil Ref. Corp.'s No. 2 La. Central O. & G. Co., 660 ft. N, 200 ft. E, SW cor., Sec. 27-10-2e.....Drlg. 710 ft.

MOREHOUSE PARISH

Bahan & Bahan's No. 4 Feazel, 900 ft. W, 330 ft. S, NE cor., Sec. 2-20-4 .....Location.
J. S. Herkness' No. 12 Bowles, 3,392 ft. E, 3,300 ft. S, NW cor., Sec. 18-20-5 .....S.D. high water; T.D. 2,780 ft.
Industrial Gas Co.'s No. 1 fee, 1,980 ft. S, 660 ft. W, NE cor., Sec. 3-20-4.....Began drlg. May 16; cmtd. 12⅛ in. 143 ft., 9-in. 848 ft.
La. G. & F. Co.'s No. 26 Crossett, 645 ft. E, 574 ft. S, NW cor. Lot 9, Sec. 33-21-5.....Began drlg. May 16; S.D. high water; T.D. 75 ft.
Southern Carbon Co.'s No. 55 fee, 1,980 ft. S, 660 ft. W, NE cor., Sec. 16-20-4.....Cmtd. 6-in. 2,090 ft.
Southern Carbon Co.'s No. 56 fee, 660 ft. S, 660 ft. E, NW cor. NW, Sec. 15-20-4.....Location.
United Carbon Co.'s No. 2 Patton, 660 ft. N, 660 ft. E, SW cor. SE, Sec. 2-20-4 .....S.D; high wtr.

OUACHITA PARISH

Amalgamated Co.'s No. 1-B Kate Cole, 660 ft. N, 660 ft. E, SW cor. NE SW, Sec. 25-20-4 .....Rig up.
Ark.-La. P. L. Co.'s No. 4 McEnery, 1,320 ft. N, 760 ft. E, SW cor., Sec. 29-19-4 .....Rig up.
Ark.-La. P. L. Co.'s No. 5 Rea & Green, 1,150 ft. S, 2,400 ft. E, NW cor., Sec. 2, in Sec. 32-18-4.....Tested 1,000,000 ft. gas 2,214 ft; W.O.
Carbon Consolidated, Inc.'s No. 5 Guthrie (was United Oil & Nat. Gas Co.'s No. 5 Guthrie), 6,634 ft. N, 7,078 ft. W, cor. Secs. 49, 25 and 26, in Sec. 50-20-4..Derrick.
Hope Prod. Co.'s No. 2 Fairbanks, 1,876 ft. E, 623 ft. N, SW cor. SE, Sec. 25-20-4.....Drlg. 1,940 ft.
Hope Prod. Co.'s No. 4 Fairbanks, 616 ft. W, 623 ft. S, NE cor., Sec. 36-20-4.....Derrick.
Jordan Drlg. Co.'s No. 6 Cole, 1,596 ft. W, 2,388 ft. N, SE cor., Sec. 49, in Sec. 20-18-4.....Cmtd. 6-in. 2,140 ft.
Jordan Drlg. Co.'s No. 7 Cole, 265 ft. S, 1,459 ft. W, NE cor., Sec. 49, in Sec. 50-18-4.....Location.
Jordan Drlg. Co.'s No. 1 J. P. Parker, 950 ft. N, 485 ft. W, cor. Secs. 41, 9 and 16, in Sec. 41-18-4.....Location.
Jordan Drlg. Co.'s No. 2 Pereboom, 1,207 ft. W, 264 ft. S, C, Sec. 9-18-4.....Location.
La. G. & F. Co.'s No. 3 Breard, S 9° 734 ft., S 81° E 594 ft., NW cor., Sec. 44-18-4.....S.D. high wtr.; T.D. 1,300 ft.
Ouachita Nat. Gas Co.'s No. 13 Smith, 5,684 ft. E, 8,148 ft. N, NW cor., Sec. 38 in Sec. 37-20-4.....Began drlg. May 31; cmtd. 12½-in. 182 ft.
Pipes & Mack's No. 1 Union Gas Products Co., Inc., 1,598 ft. W, 297 ft. N, SE cor. SW, Sec. 7-18-5.....Tested 250,000 ft. gas 2,302 ft; arranging to deepen.
Pipes & Mack's No. 2 Union Gas Products Co., 296 ft. W, 528 ft. N, SE cor. SW, Sec. 7-18-5 .....Location.
Jordan Drlg. Co.'s No. 1 School, 216 ft. S, 244 ft. W, NE cor. NW, Sec. 16-18-4.....Location.
Union Gas Products Co.'s No. 1 Hare, 660 ft. S, 660 ft. W, NE cor. NW, Sec. 22-19-5.....D.S. test 2,565 ft.; dry; W.O.
United Carbon Co.'s No. 6 Spade, 1,180 ft. S, 140 ft. E, NW cor., Sec. 27-19-4.....Location.
United O. & N. G. Co.'s No. 2 Cole, 660 ft. S, 594 ft. E, C, Sec. 26-20-4 .....Derrick.



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RICHLAND PARISH

W. C. Feazel's No. 1 R. B. Simon, 2,406 ft. W, 2,020 ft. S, NE cor., Sec. 11-16-6 — Rig up.

Franklin O. & G. Co.'s No. 1 Thompson, 660 ft. N, 165 ft. W, SE cor. NE, Sec. 14-16-6 — Location.

Industrial Gas Co.'s No. 1 Alexander, 760 ft. E, 27 ft. N, SW cor. SE, Sec. 4-16-6 — Tested 12,000,000 ft. gas 2,420 ft; arranging to deepen.

Industrial Gas Co.'s No. 1 Eliege, 1,320 ft. N, 660 ft. E, SW cor. SE, Sec. 4-16-6 — Began drlg. May 29; cmtd. 12½-in. 180 ft; 9-in. 865 ft; drlg. 1,608 ft.

Industrial Gas Co.'s No. 1 Lyles, 1,314 ft. N, 520 ft. E, SW cor., Sec. 23-16-6 — Derrick.

International Gas Prod. Co.'s No. 1 Minnie LaGrone, 769 ft. N, 858 ft. E, SW cor., Sec. 7-16-7 — Location.

La. Gas & Fuel Co.'s No. 1-D D. R. Sartor, 660 ft. W, 1,320 ft. N, SE cor. SW SW, Sec. 9-16-6 — Rig up.

Northern La. Nat. Gas Co.'s No. 4-B McCoy, 1,445 ft. N, 734 ft. W, SE cor. SW SE, Sec. 17-16-6 — Location.

Palmer Corp.'s No. 1-B Boykin, 177 ft. S, 787 ft. E, C, Sec. 33-17-6 — Derrick.

Palmer Corp.'s No. 6 Rhymes, 1,290 ft. S, 1,080 ft. E, NW cor., Sec. 3-16-6 — Cmtd. 6-in. 2,300 ft.

Palmer Corp.'s No. 1 N. D. Thomason, 1,320 ft. S, 660 ft. E, NW cor. NW, Sec. 22-16-6 — Location.

Pelican Nat. Gas Co.'s No. 1 M. Chapman, 660 ft. N, 660 ft. E, SW cor., Sec. 14-16-6 — Cmtd. 8-in. 874 ft.

Richland Operating Co.'s No. 2 Godfrey, 1,980 ft. N, 1,122 ft. E, SW cor., Sec. 25-16-6 — Drlg. 1,750 ft.

Richland Prod. Co.'s No. 1 T. S. McCoy, 1,252 ft. E, 589 ft. N, SW cor., Sec. 3-16-6 — Cmtd. 12-in. 182 ft; 8-in. 856 ft; drlg. 1,200 ft.

Richland Prod. Co.'s No. 1 Ball, 2,050 ft. S, 1,980 ft. W, NE cor., Sec. 22-16-6 — Rig up.

Southern Carbon Co.'s No. 1 Hallock, 3,300 ft. N, 760 ft. W, SE cor., Sec. 2-16-6 — Rig up.

Southern Carbon Co.'s No. 1 H. H. Hemler, 660 ft. N, 1,435 ft. E, SW cor., Sec. 1-16-6 — Location.

Southern Carbon Co.'s No. 1-B J. H. Hemler, 619 ft. N, 5,024 ft. E, SW cor., Sec. 1-16-6 — Location.

Southern Carbon Co.'s No. 1-B M. L. McCoy, 660 ft. S, 660 ft. E, NW cor. NE, Sec. 32-16-6 — Cmtd. 6-in. 2,300 ft.

Southern Carbon Co.'s No. 1-C M. L. McCoy, 1,880 ft. N, 2,871 ft. E, SW cor., Sec. 1-16-6 — Began drlg. May 29; cmtd. 12-in. 180 ft; drlg. 420 ft.

Southern Carbon Co.'s No. 2-C M. L. McCoy, 1,880 ft. N, 5,024 ft. E, SW cor., Sec. 1-16-6 — Location.

Southern Carbon Co.'s No. 4 E. A. and F. B. Sartor, 1,371 ft. E, 4,563 ft. S, NW cor., Sec. 18-16-6 — Drlg. shale and boulders 2,345 ft.

Southern Carbon Co.'s No. 1-C T. R. Sartor, 660 ft. S, 660 ft. W, NE cor., Sec. 29-16-6 — Location.

Southern Carbon Co.'s No. 1 H. L. Thomason, 660 ft. N, 660 ft. E, SW cor., Sec. 2-16-6 — Location.

Southern Carbon Co.'s No. 1-B Thomason et al, 2,310 ft. W, 100 ft. S, NE cor., Sec. 23-16-6 — Location.

Southern Carbon Co.'s No. 1-C Thomason, 1,980 ft. N, 660 ft. W, SE cor., Sec. 14-16-6 — Location.

United Carbon Co.'s No. 1 Duff, 1,320 ft. N, 660 ft. W, SE cor., Sec. 15-16-6 — Cmtd. 6-in. 2,300 ft.

United Carbon Co.'s No. 1 Landers, 1,320 ft. S, 660 ft. E, NW cor., Sec. 3-15-6 — Cmtd. 6-in. 2,300 ft.

United Carbon Co.'s No. 2 Mitchell, 660 ft. S, 660 ft. W. NE cor., Sec. 20-17-6 — Cmtd. 12-in. 187 ft; 8-in. 896 ft.

SABINE PARISH—PLEASANT HILL

Bridges-Clark Oil Co.'s No. 2 J. W. Guy, 330 ft. S, 330 ft. W, NE cor. SE SE, Sec. 33-10-12 — Set 6⅝-in. and packer 2,420 ft., tested dry; show gas 2,427-32 ft. and 2,447 ft.; T.A. 2,447 ft.

F. A. Bartlett, Jr.'s No. 1 Logan, 200 ft. S, 200 ft. E, NW cor., Sec. 27-10-12 — Rig up.

Standard Oil Co.'s No. 2 Ives, 330 ft. N, 330 ft. E, SW cor. SE SW, Sec. 34-10-12 — Cmtd. 6⅝-in. 3,160 ft.

SABINE PARISH—ZWOLLE

Tom Davis' (was T. D. Allison's) No. 1 Holliday, Sec. 31-8-12 Zwolle Townsite — Cmtd. 10-in. 98 ft; S.D. 350 ft.

Central Pet. Co.'s (was Allen & Thompson's) No. 1 McCormick, Lot 1, Blk. 2, NW NW, Sec. 31-8-12 — Drlg. 2,284 ft.

Central Pet. Co.'s No. 1 Baptist Church (was No. 1 Wall), Zwolle townsite in Sec. 31-8-12 — Bailing to test; T.D. 2,580 ft.

Loring Oil Co.'s (formerly Benedum & Trees Oil Co.'s) No. 4 Bowman-Hicks, 330 ft. N, 330 ft. W, C, Sec. 34-8-12 — Drlg. chalk 2,595 ft.

Loring Oil Co.'s (formerly Benedum & Trees Oil Co.'s) No. 5 Bowman-Hicks, 900 ft. S, 1,400 ft. W, C, Sec. 34-8-12 — Drlg. broken lime 3,800 ft.

Loring Oil Co.'s No. 8 Bowman-Hicks, 330 ft. S, 330 ft. E, NW cor. SW SE, Sec. 33-8-12 — Rig up.

Loring Oil Co.'s No. 9 Bowman-Hicks, 330 ft. N, 330 ft. W, SE cor. NE SE, Sec. 34-8-12 — Drlg. 6⅝-in. plug 2,358 ft; T.D. 2,405 ft.

McFann & Pace's No. 1 Reeves, 581 ft. E, 588 ft. N, SW cor. NW, Sec. 31-8-12 — Bailed dry 2,581 ft; W.O.

J. R. Crawford's No. 1 Pearce, 408 ft. S, 200 ft. E, NW cor. SW SE, Sec. 32-8-12 — S.D. 1,950 ft.

R. T. Dudney et al's No. 1 Pearson, SE cor. Lot 3, Blk. 3, SW NW, Sec. 31-8-12, Zwolle townsite — 200 ft. oil; W.O.; T.D. 2,576 ft.

Dixie Oil Co.'s No. 1 Nunn, 330 ft. N, 85 ft. W, C, Sec. 32-8-12 — Dry 2,497 ft.; W.O.S.R. 2,514 ft.; 1,600 ft. oil.

Gerke et al's No. 1 Okerson, Zwolle townsite, Sec. 31-8-12 — Derrick.

Glassell & Merren's No. 1 Thomas, Lot 13, Blk. 3, Zwolle townsite, Sec. 31-8-12 — Oil show; S.D.; W.O. 2,600 ft.

H. E. Granville's No. 1 Parrott, 1,052 ft. S, 661 ft. E, NW cor., Sec. 31-8-12 — Cmtd. 6⅝-in. 2,203 ft.

Jones et al's No. 1 Carson, Sec. 31-8-12 — Coring 2,125 ft.

F. M. Hood's No. 1-B (was No. 2) Winston, 700 ft. E, 425 ft. S, NW cor., Sec. 31-8-12, Zwolle townsite — S.D. 1,065 ft.

Ohio Oil Co.'s No. 3 Bowman-Hicks, 330 ft. S and W, NE cor. SE SW, Sec. 33-8-12 — Arranging to shoot formation 2,550 ft; T.D. 2,980 ft; no S.W. show.

Ohio Oil Co.'s No. 5 Bowman-Hicks, 330 ft. N, 330 ft. E, SW cor., Sec. 33-8-12 — Location.

Olsen Bros.' No. 1 Keeler, SW cor. SW SE, Sec. 27-8-12 — T.A. 2,625 ft.

W. D. Perritt's No. 1 Crow, 150 ft. N, 150 ft. E, SW cor. SE SW SW, Sec. 30-8-12 — 500 ft. oil; W.O.S.R. 2,387 ft.

Philp Bros.' No. 1 Dow, Lot 1, Blk. 18, Zwolle townsite, Sec. 31-8-12 — Cmtd. 6⅝-in. 2,137 ft; T.D. 2,157 ft.

Posey et al's No. 1 Peterson, Blk. 16, Zwolle townsite, Sec. 31-8-12 — S.D. 250 ft.

Ruston Drlg. Co.'s No. 1 Bowman-Hicks, 330 ft. S, 330 ft. W, NE cor., Sec. 4-7-12 — T.A. 3,640 ft.

Ruston Drlg. Co.'s No. 1-A Bowman-Hicks, 330 ft. S, 330 ft. E, NW cor. SW SW, Sec. 36-8-12 — T.A. 2,690 ft.

C. E. Simmons' No. 1 Anderson, Sec. 31-8-12, Zwolle townsite — Rig up.

Stovall Drlg. Co.'s No. 1 Lefkovitz, 247 ft. N, 250 ft. W, SE cor. N½ SE NW, Sec. 33-8-12 — S.W. 2,858 ft; drlg. 2,921 ft.

Wheatcroft et al's No. 1 Sabine Lbr. Co., SW NE, Sec. 31-8-12 — Cmtd. 6⅝-in. 2,161 ft; top chalk 2,165 ft.

Wilder et al's No. 1 Parrott, Sec. 31-8-12 — Rig up.

SABINE PARISH—BLUE LAKE

R. L. Gay's No. 8 Bowman-Hicks, Sec. 18-7-13 — Cmtd. 6-in. 2,187 ft; coring 2,261 ft.

Ruston Drlg. Co.'s No. 1-B Bowman-Hicks, 330 ft. S, 330 ft. E, NW cor., Sec. 24-7-14 — Tested dry 2,470 ft; T.A.

UNION PARISH

Greenwood Prod. Co.'s No. 1-C Guinn, 1,320 ft. N, 300 ft. W, SE cor. NE, Sec. 32-21-3 — Began drlg. May 22; cmtd. 12-in. 188 ft; 8-in. 852 ft; drlg. 1,200 ft.

Nemours Corp.'s No. 1 Digby, 201 ft. S, 919 ft. W, NE cor. NW, Sec. 11-20-3 — Location.

Stevenson, trustee's No. 1 Stephenson, 150 ft. N, 120 ft. E, SW cor. NE NW, Sec. 11-20-3 — Location.

Stovall Drlg. Co.'s No. 1 Murray, 1,650 ft. N, 330 ft. W, SE cor. SW, Sec. 32-23-4 — Rig up.

WEBSTER PARISH—SAREPTA AND SHONGALOO

Ideal O. & G. Co.'s No. 1 Coyle, 300 ft. N, 300 ft. E, SW cor. SW SE, Sec. 24-23-11 — Derrick.

H. M. Jones Drlg. Co.'s (was E. W. Bateman's) No. 1 Cook, 200 ft. S, 200 ft. W, NE cor. S½ SW NE, Sec. 2-22-11 — Cmtd. 6-in. 2,727 ft.

H. M. Jones Drlg. Co.'s (was E. W. Bateman's) No. 2 Cook, 200 ft. S, 200 ft. W, NE cor. SE NW, Sec. 2-22-11 — Location.

H. M. Jones Drlg. Co.'s No. 1 Womble, 860 ft. S, 200 ft. E, NW cor. SW, Sec. 1-22-11 — Location.

Glenn Kohle's No. 1 E. B. Taylor, 182 ft. N, 137 ft. W, SE cor. SE NE, Sec. 35-23-11 — Derrick.

K. C. Supply Co.'s No. 2 Clack, 1,006 ft. N, 192 ft. W, SE cor. SE SW, Sec. 36-23-11 — Location.
W, SE cor. E½ NW, Sec. 36-23-11 — Drlg. 1,300 ft.

Magnolia Pet. Co.'s No. 1 Gardner, 175 ft. N, 230 ft. E, SW cor. SE NW, Sec. 1-23-11 — Drlg. chalk 2,228 ft.

J. S. Martin, trustee's No. 1 Taylor, 330 ft. N, 330 ft. W, SE cor. NW NW, Sec. 36-23-11 — Top gas sand 2,702 ft; missed oil sand; S.D. in S.W. sand 2,760 ft.

Merrick Oil Corp.'s No. 3 Slack, 330 ft. N, 330 ft. W, SE cor. SW SE, Sec. 36-23-11 — Derrick.

S. H. Riggs, trustee's No. 1 L. & A., 250 ft. S, 530 ft. E, NW cor, NW NE, Sec. 1-22-11 — Derrick.

Mt. Vernon Oil Co.'s No. 3 Pardee, 200 ft. S, 1,500 ft. E. NW cor. NE SW, Sec. 3-22-11 — 1,400 ft. fluid; 6 ft. sand; W.O.S.R.; T.D. 2,653 ft.

W. O. Neely's No. 1 J. R. Slack, 150 ft. N, 150 ft. E, SW cor., Sec. 12-22-11 — Location.

K. C. Supply Co.'s No. 1 Cochrane, 330 ft. N, 330 ft. Sarepta Oil Co.'s No. 1 Slack, SW cor. NW NE, Sec. 36-23-11 — Rig up.

Sarepta Oil Co.'s No. 2 Gardner, NE SW, Sec. 1-22-11 — Rig up.

ARKANSAS
JOHNSON COUNTY

Ark.-La. P. L. Co.'s No. 1 Cline, 660 ft. S, 660 ft. W, NE cor. NE SE, Sec. 16-10-24 — Drlg. 1,300 ft.

Blackwell O. & G. Co.'s No. 1 Western Coal & Mining Co., C NE SE, Sec. 20-9-25 — Drlg. 640 ft.

NEVADA COUNTY

Roy Davis et al's No. 1 Chas. Henry, 1,120 ft. N, 1,120 ft. W, SE cor., Sec. 10-12-20 — Rig up.

C. F. Steele's No. 1 E. W. Groves, Sec. 21-14-20 — S.D. 2,810 ft.

OUACHITA COUNTY—SMACKOVER

L. K. Hamilton's No. 2 Arnold & Doyle, 460 ft. E, NW cor. SE SE, Sec. 23-15-16 — 700 ft. oil; 74 ft. broken sand 2,075 ft; W.O.

J. D. Reynolds' No. 4 Berg, 300 ft. S, 180 ft. W, NE cor. SE SW, Sec. 27-15-15 — W.O.S.R; 400 ft. fluid; T.D. 2,958 ft.

OUACHITA COUNTY—STEPHENS

Buffalo Oil Co.'s No. 1 Trammell, NE cor. SW NE, Sec. 11-15-19 — Rig up.

UNION COUNTY—CHAMPAGNOLLE

Lion Oil Ref. Co.'s No. 2 Kelly, Sec. 9-17-14 — O.W.D.D.; comp. Apr. 4, 1929; 6,800,000 ft. gas 2,822 ft; perforated csg. 2,735-60 ft; tested S.W; arranging to deepen.

Sundby et al's No. 2 Perdue, 75 ft. S, 150 ft. E, NW cor., Sec. 33-16-14 — Coring 2,768 ft.

Root Refineries, Inc.'s No. 2 Jerry, Sec. 21-17-14 — Dry 2,828 ft; S.W. 2,849 ft; coring 2,929 ft.

UNION COUNTY—EL DORADO

H. L. Hunt's No. 6 Pratt, 150 ft. N, 330 ft. E, SW cor. NE NE, Sec. 7-18-15 — Pumping; no gauge, 2,214 ft.

Malloy & Co.'s No. 1 Murphy, Sec. 1-18-16 — Rig up; W.O.

Malloy & Co.'s No. 3 Robertson, NE cor. S½ SW NE, Sec. 6-18-15 — Location.

Woodley Pet. Co.'s No. 5 Alderson, 175 ft. S, 175 ft. E, NW cor. NW SW, Sec. 31-17-15 — Running sand pump; T.D. 2,200 ft.

EAST TEXAS
HARRISON COUNTY

Calatex O. & G. Co.'s No. 6 Agurs, 755 ft. N, 699 ft. W, Mile Post 27, in J. Womack Sur. — Location.

Shell Rock Pet. Co.'s No. 1 Oliver Dougherty, W. D. Burris Sur. — S.D; chalk, 2,404 ft.

PANOLA COUNTY

Ark.-La. P. L. Co.'s No. 2-A G. W. Brumble, 477 ft. W, 473 ft. S, NW cor. Jno. Womack Sur. in B. C. Jordan Sur. — Rig up.

Calatex O. & G. Co.'s No. 3 Caldwell, 243 ft. S, 1,034 ft. W, SE cor. Jno. Womack Sur. in Jas. Shadoin Sur. — Cmtd. 6-in. 2,762 ft; drlg. 2,924 ft.

Nat. Gas Products Co.'s No. 3 Tom Moore, 889 ft. E, 7,928 ft. S, NW cor. B. C. Jordan Sur. — Rig up.

The Texas Co.'s No. 9 G. W. Brumble, 2,570 ft. E, 180 ft. S, SW cor. E. F. Mitcheson Sur. in Jno. Womack Sur. — Derrick.

Doris Thomason's No. 15 Crenshaw, 1,992 ft. S, 2,305 ft. E, SW cor. Jno. Womack Sur. in B. C. Jordan Sur. — Derrick.

DOMESTIC EXPORTS OF PETROLEUM, REFINED PRODUCTS

Petroleum:		Month of April 1929	Month of April 1930	4 months ending April 1929	4 months ending April 1930
Crude	Bbls.	1,723,543	1,899,665	6,973,578	7,382,261
Crude	$	2,161,662	2,323,417	9,058,765	9,601,483
Total refined petroleum	Bbls.	9,610,649	11,619,828	39,177,287	43,535,096
Total refined petroleum	$	38,376,186	41,601,150	156,902,519	161,719,557
Gasoline, naphtha and other light products	Bbls.	4,517,595	5,707,905	17,430,386	21,660,623
	$	20,502,072	23,000,353	80,485,642	91,628,553
Oils, illuminating	Bbls.	1,616,220	1,528,797	7,009,894	6,394,133
Oils, illuminating	$	6,944,330	5,435,706	29,206,073	25,058,463
Gas and fuel	Bbls.	2,701,655	3,396,725	10,995,097	11,995,601
Gas and fuel	$	2,818,101	3,420,305	11,887,290	12,037,639
Lubricating	Bbls.	771,451	972,655	3,681,322	3,427,346
Lubricating	$	7,904,300	9,507,624	34,456,326	32,159,052
Other refined petroleum	Bbls.	12,728	13,746	60,588	57,232
Other refined petroleum	$	207,383	237,162	864,188	835,729
Paraffin wax	Lbs.	22,659,688	20,061,651	98,872,216	91,228,510
Paraffin wax	$	1,076,691	787,284	5,073,982	3,632,713

KANSAS FIELDS

(Continued from Page 44)

Shell Petroleum Corp.'s No. 1 Johnson, SE cor. NW SE, Section 36-19-2w, is dry and abandoned at 3,027 feet. No. 4 Ritz, SE cor. SW SW, Section 1-20-2w, Ritz Pool, is dry and abandoned at 3,465 feet. The Texas Company's No. 2 Munn, SE cor. NW NE, Section 12-20-2w, made 1,967 bbls. from chat 2,924-74 feet. Gypsy Oil Co.'s No. 2 Krehbiel, NW cor. SW SW, Section 3-21-3w, Voshell Pool, has been completed for 400 bbls. in Wilcox sand 3,435-39 feet. No. 3 Krehbiel, SW cor. NW SW, Section 3-21-3w, made 372 bbls. in Wilcox sand 3,444-51 feet. Sinclair Oil & Gas Co.'s No. 1 Morehouse, SE cor. NE, Section 4-21-3w, has been completed for 750 bbls. in Wilcox sand 3,395-3,430 feet. No. 2 Morehouse, NE cor. SE NE, Section 4-21-3w, made 775 bbls. from Wilcox sand 3,378, total depth 3,408 feet. Barnsdall Oil Co.'s No. 3 Krehbiel, NE cor. SW SE, Section 4-21-3w, made 2,470 bbls. in Silicious lime 3,361-76 feet. The Prairie Oil & Gas Co.'s No. 6 Krehbiel, NW cor. SE SE, Section 4-21-3w, is an 850-bbl. well in Silicious lime 3,366-72 feet. Derby Oil Co.'s No. 4 Stucky, NW cor. SE, Section 9-21-3w, has been completed for 1,525 bbls. in Silicious lime 3,372-85 feet.

Lyon County

Griffith and others' No. 1 King, NW cor., Section 8-19-10, is a rig.

Rice County

Hershey & Golden made location for No. 1 Brandenstein, C SW, Section 10-19-10w.

Sedgwick County

E. F. Jones and others made location for No. 1 Lygrisse, NE cor. SE NE, Section 22-26-2. Derby Oil Co. is erecting the rig for No. 1 Eastborough, SE cor. SW NE, Section 19-27-2. W. C. Newman, Inc., has made location for No. 1 Bally, SE cor. NW NE, Section 2-27-2. The Prairie Oil & Gas Co. and T. B. Slick's No. 3 Bright, NE cor. SW NW, Section 1-26-1w, Valley Center Pool, has been completed for 120 bbls. at total depth of 3,362 feet. Shell Petroleum Corp.'s No. 7 Fischer, NW cor. SE, Section 15-26-2, made 579 bbls. from chat 2,908-16 feet.

Sumner County

Gypsy Oil Co. moved the rig in for No. 1 Sturm, CNL NW SW, Section 23-34-2w. Sinclair Oil & Gas Co.'s No. 1 Kamas, SW cor., Section 28-31-1w, made 160 bbls. from chat 3,663-91 feet.

OKLAHOMA FIELDS

(Continued from Page 42)

deep test to approximately 3,000 feet, in the NW cor. SE NW Section 30-5s-6.

The west side of Carter County is being tested by wildcat well and another new one was added during the week. Magnolia Petroleum Co.'s No. 1 Harmon, NW cor. SW Section 28-1s-2w, Carter County, is rigging up. The location is 3 miles southeast of production in the Tatums district.

On the edge of the old Healdton Pool, Kanaco Oil Co.'s No. 2 Coffey, SE cor. NE NW Section 25-4s-3w, Carter County, southwest of the production in the Healdton district, has landed the casing at 1,875 feet. The same operators' No. 1 Coffey, completed a few weeks ago, was pumping 70 bbls. a day. Magnolia Petroleum Co.'s No. 1 Spigner, NW cor. SE NW Section 24-1s-3w, Carter County, swabbed 513 bbls. the first 24 hours. Oil was found in a series of sands at 2,298-2,551 feet.

General Seminole Area

The Twin State Oil Co.'s No. 1 Marks, SW cor. NE NW Section 32-10-6, extends production in the Searight Pool. The well was first drilled in the Cromwell sand at 3,830-31 feet, where it made 625 bbls. in 24 hours. It was later drilled deeper to a total depth of 3,834 feet, where it made 3,205 bbls.. the first 24 hours.

Independent Oil & Gas Co. has purchased an 80-acre lease in the E half SE Section 17-7-8, Seminole County, paying a reported consideration of $20,000. A new location was made on the lease in the NW cor. NE SE Section 17-7-8, for a Cromwell sand test. The location is south of Wewoka. A new location has been staked on the townsite of Wewoka, by Ligdon & Todd for No. 1 in the SW cor. NE NE Section 30-8-8.

C. L. McMahon has purchased the holdings of C. W. Davey, in the Konawa Pool, southern Seminole County. The sale includes a quarter interest in the Hyde lease in the S half NE Section 20-6-6, on which there is one producing well making about 220 bbls. a day, and two drilling wells. A half interest in the NE NE Section 29-6-6, on which one well has been completed making an initial gauge of 1,435 bbls. now being shut for proration. And a half interest in the NW SE Section 20-6-6, on which two tests were drilling. C. L. McMahon expects to operate the properties as the other interests are divided among several other operators.

Wanette Under Curtailment

Wilcox Oil & Gas Co. drills deeper in the Wanette area in Township 6-3. Proration was in operation during the week and the wells were producing 25 per cent of their potential. Wilcox Oil & Gas Co.'s No. 1 Atkins, NW cor. SW Section 23-6-3, is considered the largest well in the pool. After being drilled deeper, the well flowed 2,103 bbls. in 24 hours from a total depth of 3,524 feet. The Indian Territory Illuminating Oil Co.'s No. 1 Butler, SW cor. NW Section 23-6-3, Pottawatomie County, was also drilled deeper to 3,506 feet, where it flowed 1,744 bbls. The next well expected to be completed in the Wanette area is the Prairie Oil & Gas Co.'s No. 1 Cryer, SW cor. NW NW Section 23-6-3. The test landed the 8-inch casing at 3,456 feet, and is bottomed at 3,470 feet.

Proration of oil production in the Wanette area started with the completion of the second well in the pool. The Payne Drilling Co.'s No. 1 Bullock, the discovery well in the pool, which has been making 930 bbls. a day, is pinched 25 per cent. New wells now being completed in the field will be required to curtail their production a sufficient amount to make up for any excess they may make while being drilled in. The new Wanette area is now considered one of the major pools potentially in the Greater Seminole area.

The production from the three wells in the Wanette area on June 6 was as follows:

Company and lease—	Bbls.
Payne Drilling Co., Bullock	162
Wilcox, Atkins	1,030
I. T. I. O., Butler	1,584
Total	2,776

On the same day the pool had 13 drilling operations.

Oil in Community Test

A community test in Payne County has showing of oil in a shallow sand. The test is being drilled on a 520-acre block owned by the Gardner Petroleum Co., Prairie Oil & Gas Co., Deep Rock Oil & Refining Co., Tidal Oil Co., Sunray Oil Corp. and Sinclair Oil & Gas Co., and is located in the SE cor. NE Section 13-19-1w, about 5 miles southeast of the Reiter Foster Oil Corp.'s new well in Section 8-19-1w. The showing of oil was found at 3,591-3,646 feet, which was cored. The Oswego lime was found at 4,120 feet, and the test was drilling in it at 4,210 feet on June 6.

Operators in the Beebe Pool in Pontotoc County are watching the test of the electrically-driven submerged centrifugal pump now in operation at the Benedum & Trees' No. 2 Coker, in the NW Section 31-5-5. The well is pumping 400 bbls. of oil and 2,000 bbls. of water a day.

Failure in Kingfisher

Superior Oil Corp.'s No. 1 Story, SE cor. Section 25-19-5w, Kingfisher County, wildcat is a failure and is being abandoned at a total depth of 6,563 feet.

Greater Seminole Production

The production of the Greater Seminole area declined approximately 25,000 bbls. a day for the week ending June 2. The total production for the same seven days was 283,060 bbls. The Seminole area averaged 209,339 bbls. from 1,863 wells. The daily average gauges from the Greater Seminole area for the same seven days were as follows:

Pool—	Wells	Bbls.
Little River	364	48,537
East Little River	74	15,801
Carr City	57	3,507
Maud	137	3,023
Mission	104	5,225
Bowlegs	282	30,414
Earlsboro	289	20,343
East Earlsboro	153	26,294
South Earlsboro	19	11,274
Seminole	266	30,655
East Seminole	33	4,577
Searight	85	9,689
Total	2,748	283,060

Greater Seminole Oil Shipments

Oil shipments also show a decline for the week ending June 4. The shipments from Seminole, Asher, Pearson, St. Louis and Konawa Pools were 259,900 bbls. The daily average shipments by companies were as follows:

Company—	Seminole (bbls.)	St. Louis-Pearson (bbls.)	Konawa (bbls.)
Barnsdall	1,595	....	....
Champlin	2,987	....	600
Continental	210	....	....
Consolidated	577	322	....
Coaden	6,675	100	409
Deep Rock	4,998	901	....
Empire	3,803	....	....
Gulf	28,876	3,142	1,306
Magnolia	9,688	4,466	....
Oklahoma	23,745	....	266
Prairie	20,233	4,875	5,874
Prod. & Ref.	2,928	....	....
Pure	5,301	....	....
Shell	15,814	2,856	7,845
Sinclair	48,279	9,622	1,280
Texas	14,628	142	2,356
Tidal	10,902	2,577	....
White Oak	1,838	....	....
Total	202,777	29,003	19,936
Tank cars	8,184		
Grand total	210,961		

Oklahoma City Oil Shipments

The daily average pipe line and tank car shipments from the Oklahoma City Pool averaged 116,662 bbls. for the week ending June 4. The total shipments for the same seven days were as follows:

Company—	Bbls.
Empire	207,326
Indian Territory Illuminating Oil	76,746
Magnolia	90,531
Oklahoma	127,267
Prairie	129,945
Shell	14,222
Sinclair	88,141
Tidal	82,554
Total	816,732

Oklahoma City's Shut-In Production

The initial production of the shut-in wells in the Oklahoma City Pool that have been allowed to produce for 24 hours or less as of June 7 and are now shut-in for the proration period was 452,057 bbls. The initial gauge and the approximate dates each well will open for its regular producing period follows:

I. T. I. O.:			
Sudik	*1	[1]20,000	.....
Unsell-Krager	*3	[4]4,804	6- 9-30
M. Fuzzell	2	[21]1,673	6- 9-30
M. Sudik	*2	[11]1,939	6-14-30
M. Unsell	*1	[3]2,199	6-12-30
L. Jones	*6	[5]5,092	6-17-30
Ferndale	*1	16,020	6-19-30
M. Knox	*1	[4]4,052	6-17-30
Werner-Farley	*2	[4]960	6-20-30
W. Canfield	*2	[12]166	6-20-30
Jones	*5	10,298	6-29-30
Warden	*1	6,758	7- 1-30
Werner-Farley	*3	[2]3,096	7- 2-30
Werner-Speegle	*3	[2]2,355	7- 2-30
H. W. Jones	*1	[13]1,129	7- 4-30
Borden	*1	[2]2,080	7- 5-30
E. Farley	*1	[5]104	7- 5-30
Salsman	*2	4,205	7- 8-30
C. Brokaw	*4	[4]435	7- 6-30
Ferndale Comm.	*2	[4]4,142	7- 7-30
N. Emerson	*5	[22]2,830	7-12-30
H. W. Jones	*2	[12]2,290	7-13-30
E. Trosper	*2	[15]1,000	7-13-30
B. Johnson	*4	[2]2,334	7-13-30
N. Emerson	*8	[24]1,052	7-14-30
N. Emerson	*10	[9]855	7-15-30
C. E. Trosper	*1	20,016	7-16-30
L. Jones	*8	[4]155	7-20-30
Salsman	3	942	7- 7-30
Salsman	1	[18]304	7- 8-30
Precure	1	[10]1,000	7- 9-30
L. Jones	3	10,184	5-29-30
H. W. Jones	2	24,586	7- 8-30
Trosper Hughes	*1	[3]1,000	8- 7-30
Jones Community	*2	[8]8,803	8- 5-30
Jones Community	3	[10]1,000	7- 9-30
A Brokaw	4	[3]32	8- 6-30
N. Emerson	*7	1,687	8- 5-30
C. Brokaw	3	11,303	8- 4-30
Theimer	*3	[21]10,540	8- 7-30
Precure	*1	[18]385	8- 7-30
Trosper	*11	4,285	8- 3-30
N. Emerson	*9	3,274	8- 7-30
L. Jones	*7	2,463	8- 7-30
M. Uncil	*2	2,050	8- 4-30
W. Franklin:			
Lowery	*5	[5]5,599	6-13-30
Hoopes	*4	6,396	6-12-30
Theimer	*3	[4]4,600	8- 7-30
Cromwell:			
Trosper Park	*18	[3]1,902	7- 7-30
Trosper Park	16	[3]268	7- 8-30
Trosper Park	*17	[15]5,000	8- 7-30
School Land 54	12	[12]1,000	8- 8-30
School Land 54	8	[10]1,000	8- 8-30
Sinclair:			
Vinci	*4	[22]2,386	7- 5-30
Kinter	10	115	8- 4-30
Coline:			
Olds	*9	[6]1,169	7- 7-30
Olds	*7	[17]819	7- 8-30
Warren	*3	[6]4,914	6-30-30
Warren	9	5,544	8- 8-30
Clauer	1	[1]1,203	8- 1-30
Warren	8	9,298	8- 4-30
Olds	*10	[2]2,119	8- 2-30
Slick:			
Hoopes	*5	[4]815	7- 6-30
Hoopes	*6	[11]1,617	7- 8-30
Houghton	1	16,924	6-21-30
Bailey	1	10,358	6-18-30
Martin	1	[14]10,045	7- 9-30
Hoopes	*7	3,995	8- 1-30
Heenan & Co.:			
Cunningham	*2	[12]2,000	8-11-30
Skelly:			
Hoopes	*6	[4]441	7- 7-30
Hoopes	8	12,339	7-10-30
Mid-Texas:			
Community	*1	[13]3,000	8- 6-30
Tom Slick Oil Co.:			
Hoopes	*8	[2]572	8- 5-30
Hall & Briscoe:			
Holmes	*1	[9]2,743	7-31-30
Total	74	452,057	

*Wells producing from the Simpson sand. All others are producing from the Arbuckle lime.

[1]Estimated. [2]Thirteen hours. [3]Fifteen minutes. [4]Twelve hours. [5]Five hours. [6]Eighteen hours. [8]Seventeen hours. [9]Twenty and one-half hours. [10]Twenty-one hours. [11]Nineteen hours. [12]Twenty-three and one-half hours. [13]Eight and one-half hours. [14]Thirteen hours, fifty-five minutes. [15]Six and one-third hours. [18]Eighteen and one-quarter hours. [17]Sixteen hours. [22]Three hours. [19]Thirty-five minutes. [21]Fifteen and three-quarters hour. [24]Eighteen and one-half hours. [25]Six hours.

These notations indicate the number of hours the wells produced on their initial production test.

Hughes County

Independent Oil & Gas Co. is erecting the rig for No. 1 Jackson, NW cor. NE SE, Section 17-7-8. The Prairie Oil & Gas Co. is digging cellar for No. 1 Harris, NE cor. NW, Section 8-6-8.

Osage County

Winona Oil Co. moved a machine in for No. 15, NW cor. NE NE, Section 20-29-9. Vacuum Oil Co. has the rig on the ground for No. 6, NW cor. SE SE, Section 15-26-6. No. 4 is a rig on the ground, NW cor. SE NE, Section 22-26-6. The Prairie Oil & Gas Co. made location for No. 8, SW cor. NE SW, Section 30-25-8. Indian Territory Illuminating Oil Co. has the tools in for No. 432, NE cor. SE NE NE, Section 6-25-11. The cellar has been dug for No. 430, SE cor. SW SW SE, Section 28-25-12. No. 431, NW cor. SE SE SW, Section 3-23-8, is a machine rigging up. No. 2, SE cor. NE NE, Section 14-23-8, is drilling at 100 feet. Osage Syndicate's No. 2, SW cor. NE, Section 1-21-8, is a machine. Devonian Oil Co. has the rig up for No. 5, NE cor. SE SW, Section 30-21-10. Winona Oil Co.'s No. 14, NW cor. NE NE, Section 20-29-9, has been completed for 40 bbls. in Peru sand, 1,556-90 feet. Vacuum Oil Co.'s No. 5, SW cor. SE SW, Section 28-26-6, has been completed for 100 bbls. in Burbank sand, 2,910-39 feet. Peters Petroleum Corp. and Producers & Refiners Corp.'s No. 4, SW cor. SE NE, Section 10-26-8, is dry and abandoned at 2,295 feet. Indian Territory Illuminating Oil Co.'s No. 428, NE cor. SE SE, Section 1-23-8, has been completed for 2,500,000 feet of gas in sand, 507-11 feet. Clint Moore Estate and others' No. 1, SE cor. NW, Section 10-21-9, has been abandoned at 2,725 feet.

Oklahoma County

Minnehoma Oil Co. made location for No. 1 Pugh, SW cor. NW NW, Section 2-11-3w, Block 2, Lot 12, Banner Addition, Oklahoma City Field. Plains Oil Co. made location for No. 1 Alexander, SE cor. NW NW, Section 2-11-3w, Block 7, Lots 13, 14 and 16, Reno Avenue Addition. Tom Slick Oil Co. made location for No. 1 Wilson, NW cor. SW NW, Section 2-11-3w, Block 2, Lots 22 and 36, Armourdale Addition. Location has been made for No. 1 Lard, NW cor., Section 2-11-3w. Location for No. 1 Moore was made, SW cor. NE SW, Section 2-11-3w. The cellar has been dug for No. 1 Miller, SW cor. SE SW, Section 2-11-3w. Tom Slick Oil Co. and Atkinson's No. 1 Key, NW cor. SE SW, Section 2-11-3w, is a cellar. Tom Slick

Oil Co. has the cellar dug for No. 3 Foote, NE cor. NW SE SW, Section 2-11-3w. Independent Oil & Gas Co.'s No. 1 Harrell is a location, NE cor. SW SW, Section 2-11-3w, Block 4, Lot 35, Compton Park Addition. Indian State Oil Co.'s No. 1 Armourdale, NE cor. NW NW, Section 2-11-3w, is rigging up. Park Oil & Gas Co. has the rig up for No. 1, SE cor. NE NE NW, Section 3-11-3w. Glidden Oil Co. made location for No. 1 Brewer Community, SE cor. NE SE, Section 3-11-3w, Block 1, Lot 12, Central Addition. Independent Oil & Gas Co. made location for No. 1 Hatcher, SE cor. NE NE, Section 10-11-3w. Plains Oil Co. has made location for No. 1 Community, SE cor. NW NE, Section 10-11-3w, Block 15, Lot 10, Terrace Lawn Addition. Plains Petroleum Co. made location for No. 1 Schillings, NW cor. SE SE, Section 10-11-3w. Indian Territory Illuminating Oil Co.'s No. 1 View Point, SE cor. NE SW SE, Section 10-11-3w, is rigging up.

Hall & Briscoe made location for No. 2 Holmes, SW cor. NE SE, Section 10-11-3w. No. 3 Holmes is a cellar, NW cor. NE SE, Section 10-11-3w. The cellar has been dug for No. 4 Holmes, SE cor. NW SE, Section 10-11-3w. Tom Slick Oil Co. made location for No. 1 Frost, SE cor., Section 10-11-3w. Location has been staked for No. 1 Frost Heights, NW cor. SE SE, Section 10-11-3w. No. 2 Frost Heights is a location, NW cor. SW SE SE, Section 10-11-3w. Location was made for No. 3 Frost Heights, SE cor., Section 10-11-3w. No. 4 Frost Heights is also a location, NE cor. SE SE, Section 10-11-3w. Skelly Oil Co. and others made location for No. 1 Ainsworth, SE cor. SW NE SE, Section 10-11-3w. No. 2 Ainsworth, SE cor. NE SE, Section 10-11-3w, is a cellar. The cellar has been dug for No. 3 Ainsworth, NE cor. NW NE SE, Section 10-11-3w. No. 4 Ainsworth, NE cor. SE, Section 10-11-3w, is a cellar. Skelly Oil Co. and Heenan & Coe made location for No. 1 Tanner, SE cor. NE, Section 10-11-3w. Location was made for No. 2 Tanner, NW cor. NE SE NE, Section 10-11-3w. Cromwell-Franklin Oil Co. made location for No. 29 Trosper Park, NW cor. SW NW, Section 13-11-3w. Plains Petroleum Co. and Denver Producing & Refining Co.'s No. 1 Boulevard View, NW cor. SW NW NW, Section 14-11-3w, Block 5, Lots 18 and 25, is a rig under construction. Denver Producing & Refining Co. and others made location for No. 1 Harvey, SE cor., Section 15-11-3w. The cellar has been dug for No. 2 Harvey, NW cor. SW SE SE, Section 15-11-3w. Mid-Kansas Oil & Gas Co.'s No. 4 Mollman, NW cor. SE, Section 22-11-3w, is a cellar. Indian Territory Illuminating Oil Co. is erecting the rig for No. 1 Capshaw, SE cor. NW, Section 23-11-3w.

Hall & Briscoe's No. 1 Holmes, NE cor. SW SE, Section 10-11-3w, has been completed for 9,743 bbls. in 12 hours in sand 6,340-6,419 feet. Indian Territory Illuminating Oil Co.'s No. 1 Precure, SE cor., Section 11-11-3w, made 3,405 bbls. in sand 6,366-6,523 feet. Cromwell-Franklin Oil Co.'s No. 19 Trosper Park, SW cor., Section 12-11-3w, had sand 6,325-97 feet and made 31,002 bbls. Indian Territory Illuminating Oil Co.'s No. 11 Trosper, SW cor. NW SW, Section 13-11-3w, has been completed for 4,285 bbls. in sand 6,335-6,433 feet. No. 2 Mary Unsell, NE cor. SE NE, Section 23-11-3w, made 2,050 bbls. in sand 3,390-6,523 feet. Mid-Kansas Oil & Gas Co.'s No. 1 Mollman, SE cor., Section 23-11-3w, has been deepened from 6,401 feet to 6,625 feet and made 2,341 bbls. Indian Territory Illuminating Oil Co.'s No. 2 Johnson, NW cor., Section 25-11-3w, has been deepened from 6,428 feet to 6,534 feet and made 1,893 bbls. Skelly Oil Co.'s No. 7 Hoopes, SE cor. NE NE, Section 31-11-3w, has been completed for 3,995 bbls. in sand 6,344-6,456 feet. Indian Territory Illuminating Oil Co.'s No. 7 Jones, NE cor. NW NW, Section 31-11-2w, has been completed for 2,463 bbls. in sand 6,345-6,626 feet. Coline Oil Co.'s No. 9 Warren, SE cor. SW SW, Section 18-11-2w, made 5,544 bbls. in Arbuckle lime 6,035-6,474 feet. Indian Territory Illuminating Oil Co.'s No. 7 Emmerson, SE cor. SW SW, Section 30-11-2w, has been completed for 1,687 bbls. in sand 6,358-6,514 feet. No. 9 Emmerson, NW cor. SW SW, Section 30-11-2w, made 3,274 bbls. in sand 6,430-6,565 feet. Shell Petroleum Corp.'s No. 7 Petty, SE cor. NW NE, Section 30-11-2w, was deepened from 6,420 feet to 6,542 feet and made 401 bbls.

Caddo County

Magnolia Petroleum Co. is building the rig for No. 3 Sames, SE cor. NE NE, Section 35-6-10w. English Drilling Co.'s No. 1 Huron, C NW SE, Section 26-6-10w, has been abandoned at 3,511 feet. Mid-Kansas Oil & Gas Co.'s No. 8 Wade, NW cor. NE SW, Section 2-5-9w, has been completed for 70 bbls. in sand 3,313-36 feet. Bullock and others' No. 2 Royce, SW cor. SE SW NE, Section 12-5-9w, is flowing 150 bbls. from sand 3,022-66 feet.

Carter County

Magnolia Petroleum Co.'s No. 1 W. S. Spigner, NW cor. SE NW, Section 24-1s-3w, has been completed for 393 bbls. in broken sands at 2,551 feet. Ven Mex Oil Co.'s No. 1 Keener, NW cor. SW SE, Section 29-1s-3w. made 73 bbls. in broken sands 2,968-4,099 feet.

Cherokee County

Weaver & Proctor's No. 1 M. Benge, SW cor. NE NE NW, Section 8-14-21, is a machine.

Comanche County

Max Pray Oil Co. is moving the tools in for No. 1 Kline, NE cor., Section 8-3-10w.

Cotton County

Wirt Franklin Petroleum Corp.'s No. 2 School Land, SW cor., Section 36-1s-10w, is rigging up. Shasta Oil Co.'s No. 12 Patterson, NW cor. SW SW NW, Section 1-2s-10w, is rigging up. No. 15 Slogan, SW cor. SE NE NE, Section 2-2s-10w, is also rigging up. Perkins & Cullum's No. 3 Chambers, NW cor. SW SW, Section 1-2s-10w, has been abandoned at 2,217 feet. Shasta Oil Co.'s No. 4 Chambers, SW cor. NW SW, Section 1-2s-10w, has been completed for 25 bbls. in sand 2,209-12 feet. No. 6 Cobb, CEL SE NE, Section 2-2s-10w, is pumping 75 bbls. from sand 2,138-65 feet. No. 1 B. Burneaugh, NE cor. SE SE, Section 2-2s-10w, is pumping 25 bbls. from sand 2,115-18 feet.

Creek County

O. M. Irelan has the rig up for No. 1 Baker, NE cor. SE, Section 10-17-10. Carpenter and others' No. 1-A Collins, SE cor. NE NW, Section 4-17-11, is drilling at 1,200 feet. Phillips Petroleum Co. and Gled Oil Co.'s No. 1 Carter, NW cor. SE, Section 20-19-9, has been completed for 110 bbls. in sand 2,222-75 feet.

Jefferson County

Kiel & Wylie's No. 1 Seay, SW cor. NW SW NW, Section 35-6s-5w, is rigging up.

Kiowa County

W. C. Adams' No. 1 Fisher, NE cor. SW, Section 34-7-17w, has been abandoned at 1,087 feet.

Lincoln County

T. J. Hughes and others moved the rig in for No. 1 School Land, NW cor. NE, Section 36-17-3. Magnolia Petroleum Co.'s No. 2 Decker, SW cor. SE, Section 8-14-4, made 2,768 bbls. in Hunton lime 4,612-75 feet. No. 1 School Land, SW cor. SE SE, Section 16-14-5, is dry and abandoned at 4,770 feet.

Marshall County

F. W. Merrick has a machine on the location for No. 20 Null, NE cor. NW NW, Section 24-5s-5, Madill Pool. Otto Reynolds' No. 1 Davis-Sullivan, SE cor. NW SE NW, Section 30-5s-6, is a machine. F. W. Merrick's No. 19 Null, NW cor. NE NW NW, Section 24-5s-5, has been completed for 50 bbls. in sand 665-70 feet.

Muskogee County

C. F. Finefield and others moved a machine in for No. 1 S. Murrell, SE cor., Section 5-15-18. J. L. Haner's No. 8 M. Stedham, SE cor. NE NE SE, Section 8-15-18, is spudding. H. E. Williams' No. 1 A. Robins, NW cor. SW NW, Section 13-15-18, is a machine. J. R. Parks' No. 1 P. Roberts, NE cor. SW NW SE, Section 15-15-18, is rigging up. Beard & Elliott's No. 2 J. Dixon, SW cor. SE SW, Section 3-13-16, is spudding. Mid-Western Oil & Gas Co. has a machine on the location for No. 1 L. Lacey, C NE SW, Section 31-12-19. Mack Drilling Co.'s No. 3 D. Richards, CSL NW NE, Section 33-16-15, has been completed for 10 bbls. in sand 1,366-90 feet. Bryan Petroleum Co.'s No. 10 N. Barnett, CSL SE NE, Section 8-15-15, has been completed for 7 bbls. in sand 1,850-80 feet. J. M. Foltz' No. 3 Spaulding, NW cor. SE NE SW, Section 9-15-18, made 100 bbls. from sand 991-1,002 feet. Western Development & Exploration Co.'s No. 3 L. Fields, NW cor. NE NE SW, Section 9-15-18, has been completed for 100 bbls. in sand 967-980 feet. William La Pierre's No. 1 Mickens, SW cor. NW NW, Section 11-15-18, is dry and abandoned at 990 feet. R. F. Ray and others' No. 1 Foreman, SW cor. SE, Section 14-13-18, has been completed for 962,880 feet of gas in sand 572-659 feet. Mid-Western Oil & Gas Co.'s No. 1 Mulkey, C SW SW, Section 30-12-19, is dry and abandoned at 733 feet.

Okfuskee County

Shell Petroleum Corp. and Shelden's No. 1 Wilson, SE cor. NE, Section 21-12-11, is a rig. Atlantic Oil Producing Co.'s No. 1 F. Jimboy, SE cor. NE NE, Section 11-11-10, is spudding. Pure Oil Co.'s No. 4 H. Barnett, CWL SE NW, Section 25-11-10, is rigging up to deepen from 2,601 feet.

Okmulgee County

Aiken Oil Co.'s No. 7 Sloan, CNL NE NW, Section 22-13-14, is an old well drilling deeper at 2,005 feet. Kirkland & Son's No. 3 E. Brown, NE cor. SW SW, Section 9-15-13, has been completed for 5 bbls. in sand 2,503-11 feet.

Pawnee County

Henreco Production Co.'s No. 3 Cotton, CWL SW NE, Section 6-20-8, is preparing to deepen from 2,060 feet. O. D. Steen's No. 1 Ackley, SE cor. SW SW, Section 24-20-9, is cleaning out after shooting 130 quarts in Layton sand 1,096-1,151 feet. Swift and others' No. 5 Smelzer, SE cor. NW, Section 35-20-9, is spudding. Geraldine Oil Co.'s No. 7 Edmiston, SE cor. NW SW, Section 30-21-9, made 30 bbls. in Layton sand 1,088-1,110 feet. Seminole Oil Co.'s No. 1 Edmiston, NW cor. SW SW, Section 30-21-9, has been completed for 5 bbls. in Layton sand 1,085-1,108 feet. Campbell Drilling Co.'s No. 1 Miller, NW cor. NE SE, Section 20-20-10, made 2,000,000 feet of gas in Bartlesville sand 1,939-40 feet.

Pittsburg County

Central States Light & Power Co. moved the rig in for No. 1 Bascom, NW cor. SE SE, Section 10-7-18. No. 1 L. Bascom, SE cor. SW SE, Section 10-7-18, has been completed for 9,000,000 feet of gas in sand 1,792-1,895 feet.

Pontotoc County

Denver Producing & Refining Co. has the rig up for No. 2 Hickman, SW cor. SE SE, Section 25-5-4. Benedum-Trees Oil Co.'s No. 3 Coker, SE cor. NW NW, Section 31-5-5, Bebee Pool, has been completed for 100 bbls. in Viola lime 2,468-2,660 feet. Denver Producing & Refining Co.'s No. 2 Stafford, SW cor. NW, Section 31-5-5, made 100 bbls. in Viola lime 2,636-61 feet. Brydria Oil Co.'s No. 1 Burke, SE cor., Section 32-5-5, is a 40-bbl. well in Hunton lime 2,462-2,668 feet.

Pottawatomie County

Clark & Cowden's No. 2 Earlsboro Townsite, NW cor. SE SW NW, Section 8-9-5, is a rig. Eason Oil Co. is building the rig for No. 1 Earlsboro Townsite, Block 23, SW cor. NW, Section 8-9-5. Stauffer and others' No. 1 Townsite, Block 29, NW cor. SE SE SW, Section 18-6-4, Asher Pool, is a rig under construction.

Seminole County

Gypsy Oil Co. is building the rig for No. 10 Payne, NW cor. SE NE, Section 5-7-7, East Little River Pool. Harris and others' No. 3 Chupco, SE cor. NE SE, Section 20-6-6, Konawa Pool, is a cellar. Sinclair Oil & Gas Co.'s No. 2-A Cully, SW cor. NE NW, Section 13-5-7, is drilling at 250 feet. The Prairie Oil & Gas Co.'s No. 6 Baker, NW cor. SE NE, Section 24-9-5, Earlsboro Pool, is rigging up to deepen to Wilcox sand. Sinclair Oil & Gas Co.'s No. 2 V. Jones, SE cor. SW SE, Section 15-9-5, Earlsboro Pool, has been completed for 1,177 bbls. in Wilcox sand 4,253-59 feet. Amerada Petroleum Corp. and others' No. 3 Gross, SE cor. SW NW, Section 24-9-5, is pumping 160 bbls. from Wilcox sand, 4,226-43 feet. Magnolia Petroleum Co.'s No. 4 Moore, SW cor. NE SE, Section 24-9-5, has been completed in Wilcox sand, 4,270-88 feet, for 782 bbls. Signal Oil Co.'s No. 6 Bond, NE cor. SW NE, Section 13-6-7, Sasakwa Field, is dry and abandoned at 3,017 feet in Cromwell sand topped at 2,950 feet. Hilton Phillips and others' No. 2 Burgess, NW cor. NE, Section 29-6-6, Konawa Pool, flowed 4,020 bbls. from sand 2,859-61 feet. Blackwell Oil & Gas Co.'s No. 4 Fleet, NE cor. SW NW, Section 13-5-7, West Allen Field, made 405 bbls. in Wilcox sand, 4,226 feet. Gypsy Oil Co.'s No. 6 Peters, C SE NE, Section 23-5-7, has been completed for 15,000,000 feet of gas in sand, 2,665-77 feet. C. B. Shaffer's No. 10 Yoakum, SW cor., Section 9-5-8, made 2 bbls. in sand, 807-12 feet.

Stephens County

Pearce & Brown's No. 1-B Wilkinson, SW cor. SE, Section 27-1s-8w, is an old well rigging up to deepen from 1,679 feet. Heydrick and others' No. 1 Pope, NE cor. NW NE, Section 29-1s-8w, is drilling at 2,310 feet. Pearce & Brown's No. 7 Wilkinson, SE cor. SW SW SE, Section 27-1s-8w, made 45 bbls. in sand, 1,948-59 feet. Shasta Oil Co.'s No. 14 Patterson, CEL SW NW, Section 1-2s-10w, is swabbing 75 bbls. from sand, 2,178-89 feet. Magnolia Petroleum Co.'s No. 2 Christy, SE cor. NW NW, Section 15-2s-6w, flowed 90 bbls. from sand, 2,870-81 feet. W. H. Smith's No. 1 Randle, SE cor. NE NW, Section 15-2s-6w, has been abandoned at 3,311 feet.

Texas County

Three Way Oil Co.'s No. 1 Johnson, SW cor. NW, Section 11-1-18e.c.m., is preparing to deepen from 3,504 feet.

Tulsa County

H. C. Dean and others' No. 1 Grayson, SW cor. SE SW, Section 20-19-14, is dry and abandoned at 1,390 feet.

Wagoner County

H. L. Hollingsworth's No. 1 J. Belcher, SE cor. SW, Section 21-19-16, is drilling at 564 feet. Ash Brothers' No. 2 A. Childers, SW cor. NW SE, Section 15-18-17, is rigging up. North and others' No. 2 W. Kernal, NE cor. SE SE, Section 31-18-17, has been completed for 962,880 feet of gas in sand, 989-97 feet.

VENEZUELAN JOINT OPERATION

NEW YORK, June 9.—Creole Petroleum Corp., Venezuelan operating subsidiary of the Standard Oil Co. (New Jersey), is reported negotiating with Mexican Seaboard Oil Co. for an agreement for joint operation of Venezuelan properties of the two companies. The agreement sought, it is believed, will be similar to that concluded between Creole and Cities Service Co. for the development of adjoining properties on the Paraguayan Peninsula. Mexican Seaboard geologists are now in the field in Venezuela, looking over the company's properties there, amounting to approximately 660,000 acres.

Through Venezuelan Seaboard Oil Co., a subsidiary, the company now leases to Gulf Oil Co. 40,000 acres on the west shore of Lake Maracaibo, Venezuelan Seaboard receiving a net royalty of 20 per cent from the total production.

CANADIAN OIL IMPORTS

CHATHAM, Ontario, June 7.—Official figures show crude oil imports into Canada in April of 47,142,823 gallons, compared with 77,000,000 gallons in January. Shrinkage is due apparently to Canadian importers taking advantage of market conditions to stock heavily in the latter part of 1929, when imports reached a monthly peak of 115,000,000 gallons, though the monthly average for the year was around 90,000,000 gallons.

COLON PRODUCTION

Production of Colon Oil Corp.'s subsidiary in Venezuela for the week ended May 30 was 84,285 bbls.

TREATMENT OF MUD FLUID IN CALIFORNIA

(Continued from Page 32)

found that the cost of this apparatus and interconnecting flumes and piping was below the costs of establishing individual mud mixing equipment and large sumps at each well. The mud for a Ventura well of approximately 7,000 feet costs in the neighborhood of $15,000 under the present system. The cost under the old system was more than twice as great and the quality of the mud used was much below that now furnished.

Method Employed

Briefly, the method is, each well is supplied with a small settling ditch as in usual installations. Connected into this ditch is a flume which runs to a center mentally in the case of individual wells, contemplates the use of vibrating screens at the well, by means of which most of the sand is removed. These are used on the average of about one-fifth of the circulating time and are of approximately 60 mesh. Periodically the mud is then sent to a central reconditioning station where it is diluted and run through a classifier, of the type usually used in mining work, where the sand settles at once during the passage through the machine, and the mud immediately goes to a large reservoir within which is a large classifier of similar construction. The first group of classifiers consists of a series of scrapers arranged on rotating arms and continually scrape the settlings toward the center where they are removed on a conveyor belt. The mud fluid runs it goes into operation), or water. From the mill it passes through a screen, which is kept free by continuous jetting of water through it, into receiving tanks where it is checked for weight and flows down into storage tanks below, from which it is pumped through long pipe lines to the wells. A circulating system is installed in the storage tanks so that if the normal amount of mud for the wells is not required to keep a continual inflow and outflow from the storage tanks, recirculation through pipes extending down into the tank will keep the mud from settling.

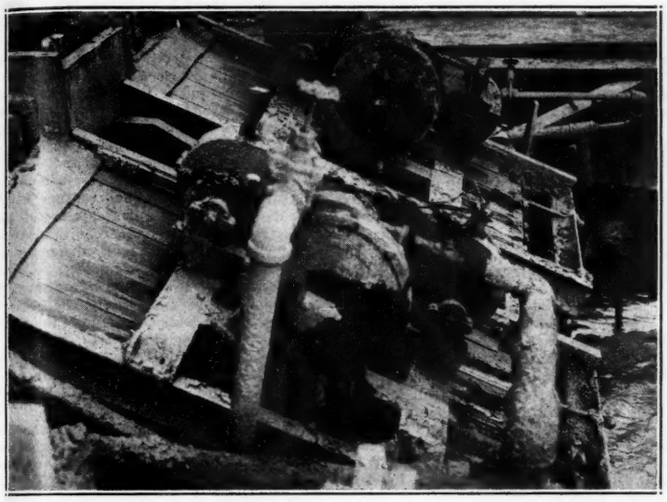
As an example of the value of the elimination of these fine sands from the mud, a recent case of twist-off consisting of eight stands of pipe at 5,000 feet was pulled without washing over. Under the old conditions after the three or four hours required for pulling out and going in, in such a case, a complete wash over job would be required.

The problem of waste mud and water on Ventura Avenue was met by a community 12-inch line which was installed and is maintained by one of the major companies, and is used by several of the other companies who pay their proration of the cost and maintenance. A special large settling sump was constructed on the river bottom which was reinforced with concrete and drill pipe driven into the ground to bed rock. Clean salt water is turned into the ocean.

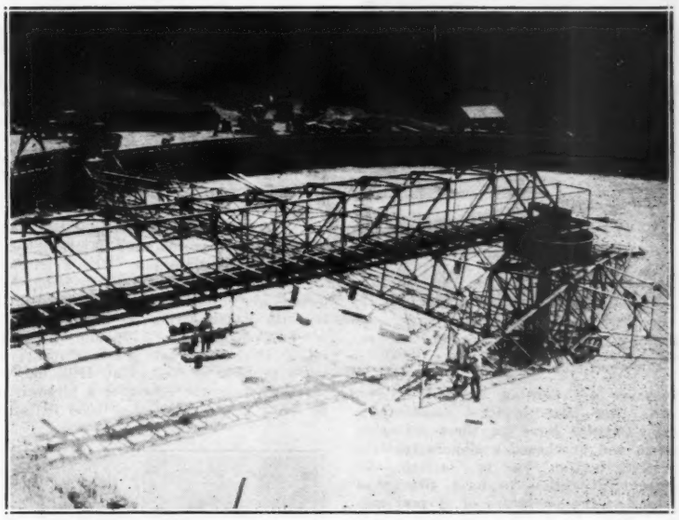
Each well has a waste sump and all excess waste mud and water is shipped from this waste sump through the mud lines to a central disposal plant, where the mud and sand are allowed to settle out in small sumps. The oil is collected and salvaged, or burned, and the clean salt water is shipped through the company's own oil line to its refinery at tidewater, where the water is again treated for the oil the water has collected in the pipe line and the clean salt water pumped into the ocean.

Most of the wells are located on small tracts within the city limits which makes

One of the large companies on Signal Hill has its own central mud mixing and distributing plant very similar to the systems used in Ventura, but not on such an elaborate scale. A hopper is placed on a steep side hill. The dry mud is mixed with paddle mixers and hydraulically. It is pumped through lines to the individual wells, and in the majority of cases there is a reserve tank placed along side of the slush pit with several hundred barrels of mud in reserve at all times for emergency purposes. The cost of mud deliveries to three different wells at Santa Fe Springs and Signal Hill all drilled to a depth of approximately 7,500 feet ran $3,452.58, $2,970.39 and $3,897. Mud deliveries to wells run from 5,000 to 25,000 bbls. of approximately 70 pounds per cubic foot.



Sixty-mesh vibrating screens, steam turbine operated, at the well, for removing sand. Ventura oil field, California.

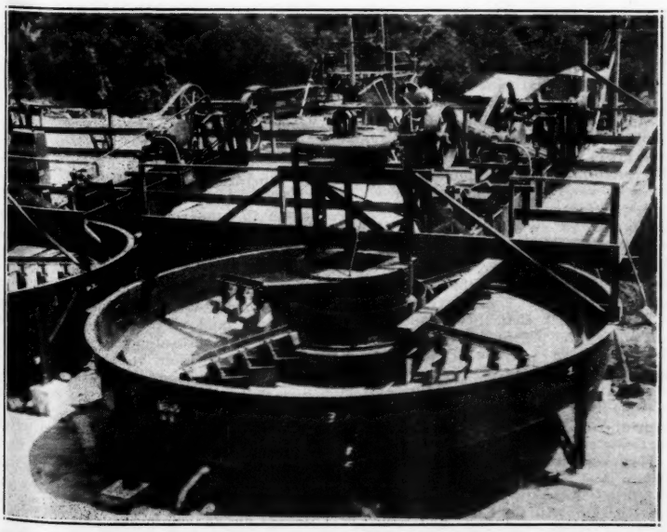


A larger Dorr thickener during the course of construction. The pipe line carrying the mud is laid on the bridge above the pit and the heavier portion of the mixture is discharged through a central opening as it settles to the bottom of the basin and is dragged to the center by the rakes carried on the arms shown extending two ways from the central support.

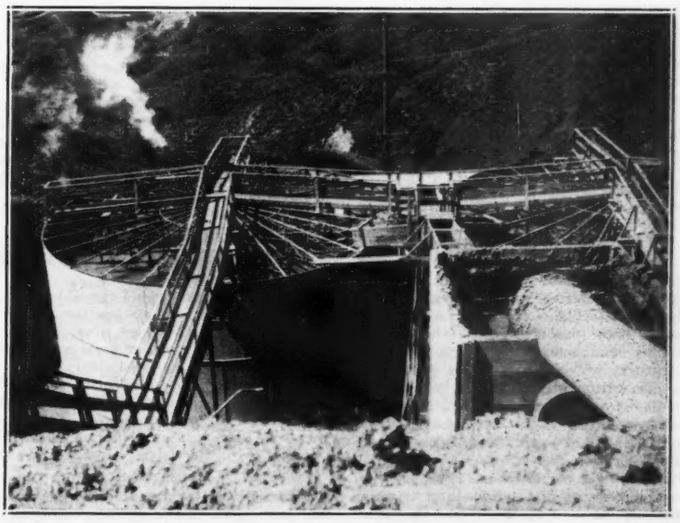
settling basin, where the cuttings are allowed to settle out. The mud remaining in the solution is pumped off the top and to the central mud mixing station, where it is mixed with the fresh clay to produce a mud of about 85 pounds to the cubic foot (11.37 pounds per gallon) to be diluted at the well as conditions may require. The usual mud used is about between 80 and 83 pounds per cubic foot (10.7-11.1 pounds per gallon), but not very viscous. Some jelling compounds are used to add viscosity. Little weighting material is used. In this system however, considerable mud is lost, in the settling basins.

The new system now being constructed, and which has been worked out experi- over the edge of the classifiers and into a trough from which it flows to the large reservoir. The reservoir scraper arms, which make one revolution in 40 minutes, push the denser mud, which settles to the bottom, toward the center where it is removed by the pumps and pumped back to the central mud mixing plant for the addition of the new clay.

The central mud mixing plant is arranged on a side hill at the top of which the mud is mined. A steam shovel is used to take out the mud which is loaded into trucks and dumped just above the plant where it flows into a long chute. The mud is then hydraulicked into a pug mill, using the mud from the settling basin (or from the new classifier when



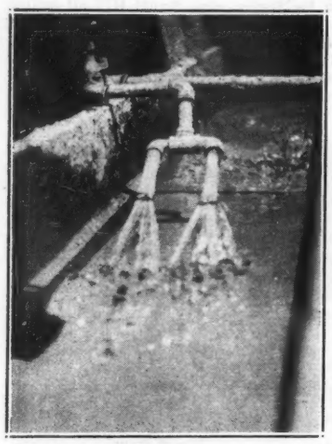
Bowl classifier removes the sand from the mud after the mud fluid has been diluted. The classifiers are in the background and the thickener is the pan shaped vessel in the foreground.



These mud storage tanks contain a recirculating system through which the mud is pumped to mix it thoroughly if it must stand in storage for any length of time. Ventura oil field, California.

the problem of handling mud, waste water and waste oil more difficult. They must buy dry mud and mix it at the well, or buy ready mixed mud from some of the concerns who make a business of mixing and selling mud fluid by the tank.

The answer to their waste mud, water and waste oil disposal has been organizing a nonprofit corporation under the name of "Oil Operators, Inc." They have a rate of membership for dehydrating plants, refineries and individual wells at so much per unit. Each unit gives the



Diluting thin mud weighing 82 lbs. per cubic foot (10.96 lbs. per gal.) Ventura, California oil field.

purchaser one vote in the corporation. While they have invested considerable money in pipe lines for their gathering system and purchased a 40-acre tract in the river bottom close to the field, the management claims to have effected a savings to the operators of several million dollars. In this disposal plant, which handles not only the water, but mud, sand and waste oil, the fluid is first run into a settling hopper, dropping as much of the mud and sand as possible; then it is run through a series of sumps until the oil has been removed and the water, after it has been clarified, is turned into the flood control, which is the river bottom.

Two things of particular interest in connection with this disposal plant is the fact that the corporation has salvaged thousands of barrels of oil and derives an income of $500 per month from the sale of the clear salt water to a chemical plant that extracts iodine from it, the water being particularly rich in this chemical. The mud plant handles at this time between 70,000 and 80,000 bbls. of fluid per day. The total cost of mud, water and oil disposal under this system to date has been $400 per well.

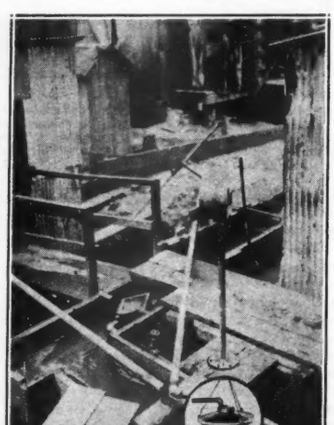
Santa Fe Springs

The mud problems in Santa Fe Springs are very similar to those in Signal Hill. Due to the depletion of fluid in the upper oil zones, considerable difficulty was experienced in losing circulation, both at Santa Fe Springs and Signal Hill in the early part of the deep drilling campaign. The usual procedure was to use wood shavings, cotton seed hulls, heavy mud and commercial jellying substances to overcome these troubles.

Kettleman Hills

Kettleman Hills has all of the mud troubles of the other fields and many that the other fields do not experience. Very deep wells which have high pressure gas zones, high pressure water strata, large porous sand bodies, high formation temperatures which increase the difficulties in cementing, all contribute to the mud problems which are magnified by the location of the field far removed from sources of mud supply and difficulties of transportation.

Most of the operators get their dry mud in freight cars in Coalinga and truck it some 20 miles to the location. One company is fortunate in having a good quality of mud on its own property. High gas pressures and high pressure water zones make it necessary to carry mud which weighs from 85 to 95 pounds to the cubic foot (11.4 to 12.7 pounds per gallon) at all times. The high pressure water zones encountered from 4,500 to 5,500 feet in various locations, very quickly lighten up the mud fluid. Cavities, fissures and porous sand bodies, of course, steal the mud. Various types of mud weighting materials are continually used with success, and are always kept on hand at the rigs where they can be mixed as the occasion arises. Sawdust, wood shavings, cotton seed hulls and jellying substances are used extensively to regain the lost circulation. The successful landing of long strings of casing has been facilitated by the addition of approximately 2 per cent by weight, of a jellying material and circulated before the pipe is run. The danger of having the cement set before it gets to the shoe, due to extremely high formation temperatures, has been decreased by pumping a mixture of water and some type of weighting material, such as bariod, on top of the plugs to overbalance to fluid column and permit the pump to operate at a higher speed. This material is built up to 125 to 135 pounds per cubic foot (16.7 to 18 pounds per gallon) and has affected a saving of about 30 per cent in time in getting the slurry in place. The mud is mixed with some jellying substance, such as approximately 4 per cent Aqua-jel, when porous mud absorbing formations are encountered. The weight of the mud will then drop to probably 80 pounds per cubic foot. Mud used to drill in with weighs from 85 to 95 pounds per cubic foot (11.4-12.7 pounds per gallon). Mud and waste water disposal is not a problem in Kettleman Hills due to its location in the center of a large area of waste land. There has been little or



Martin-Decker automatic recording mud scales in operation. Signal Hill, Calif.

no work done so far in reclaiming the mud.

There are but few figures available on the cost of mud in this section. The cost of mud including weighting and jellying material for one well was about $50,000. Extreme conditions may cost more, but the average will probably be much less.

PROPER ADMIXTURE OF ROTARY DRILLING MUD

(Continued from Page 65)

There is plenty of reason for preventive treatment in such an area.

There are two ways of treating a mud body to increase its colloidal quality; first, by adding an admixture that relies on combining with the water content of the mud fluid, and, second, by adding a chemical reagent that relies on chemical reaction with the basic minerals in the solid particles in the fluid.

As a colloidal admixture relying on the water content, a finely powdered high quality bentonite is being used successfully. Bentonite is a general name for one class of material resulting from the devitrification and partial decomposition of glassy volcanic ash. Deposits are found in many parts of the United States and Canada, but vary considerably in quality. Bentonite from Wyoming has been found to be of suitable quality for use as a drilling fluid admixture. Its specific gravity is 2.4 and the Wyoming variety is white in color. It is composed of inert mineral ingredients and is capable of taking up several thousand per cent of water. It is pulverized very fine and treated for drilling fluid usage so that hydrating action takes place fairly quick.

When it takes up water, the particles swell to many times their original size and the mass becomes a gel. It is this gelling property that makes it useful as an admixture to add colloidal or suspending qualities to rotary mud.

As there is a tendency for groups of the particles to stick together and form bunches when mixing with water or adding to a drilling fluid, it is best mixed in a jet mixer.

The amount of bentonite to add to a mud that is deficient in colloidal quality is approximately an amount equal to .02 per cent of the total volume of the mud to be treated for every 1 per cent of settling in 24 hours.[1] That could be used as a starting basis and additional bentonite added if necessary. Field tests can be made by using a 4-ounce bottle, or 100 c.c. graduate and measuring the settling in 24 hours.

Chemical reagents rely on chemical reaction with basic contents in natural mud to increase colloidal quality. They act to cause gelatinous precipitates which surround the particles of clay and cause adhesion. It has been found, however, that such treatment works better on the natural mud in some areas than in other areas, and a trial should be made with a small sample before using. Treated sodium aluminate is a base for a chemical reagent now on the market. It is used up to 1 part reagent to 600 parts of drilling mud, by volume.

In making any tests on colloidal quality, salt water should be added to the test specimen after the colloidal condition has been stabilized. Theoretically, clays are deflocculated by the addition of alkalies; and will tend to flocculate by the addition of acids. The use of an alkali in that sense would act to aerate gas-cut mud.

Weighting Admixtures

When a natural mud drilling fluid is thickened to get more weight simply by cutting down the percentage of water, the result is to increase the viscosity and percentage of solids in the fluid. With this procedure, the maximum additional weight is very limited and the tendency is to get a thicker fluid that might present difficulties in circulating and will not readily release cuttings and sand content.

Also, it will be more liable to become gas-cut. Very often a thick mud looks like a heavy mud. There have been cases of mud so thick that they would hardly run out to the pit, but weighed very little more than water. If the natural mud is favorable and the desired increase in weight is within practical limits, it is possible to treat the solids in the fluid with an alkali to reduce the cohesion of particles and reduce the viscosity.

However, a more simple and more widely used method is to add a powdered weighting admixture of high specific gravity that will increase the weight of the fluid without increasing the viscosity.

Such a material should be finely ground and should have sufficient colloidal quality of its own not to drag on the colloidal quality of the mud body.

Iron oxide, hematite and barite have been the materials mostly used as weighting admixtures.

Iron oxide is a very high form of oxidation of iron and has a specific gravity of 4.9. When used as a weighting admixture it should be ground to about 300 mesh and should be treated to give it independent colloidal quality. Also, it should be free from abrasives.

Hematite is an iron ore containing about 70 per cent of iron. The color is usually various shades of reddish brown. Its specific gravity is 4.8 to 5.3 and hardness is 5.5 to 6.5.

Barite, a barium sulphate, has been used considerably more often than iron oxide and hematite and its general use as an admixture has become well known. However, the wide variation in quality of barite in different deposits is worth noting. The large deposits in the Southwest are located in Georgia, Missouri and New Mexico and it occurs in crystals or massive. It may be colorless, white or light shades of blue, red and yellow and transparent to opaque. Its specific gravity is 4.5 and hardness is 3 to 3.5.

The most suitable barite for a mud admixture is of an unctious nature found in Missouri. When water ground the abrasive content is more readily released than when dry ground; it also must be treated to give it independent colloidal quality. Its lower abrasiveness and unctious nature are chiefly the reasons for its more widespread use than the other weighting materials.

Weighing mud is very important. This is being done at present by taking a sample of the mud in a gallon bucket and hanging it on a pair of scales. A forward step has been recently made and a device is now being tried out which is designed to give a continuous reading and record of the mud weight. The device consists of a hopper of known capacity, a discharge in the bottom and an overflow. It is connected to the ditch by a sampler line. The hopper is suspended by a dynamometer which operates an indicating gauge and a recording gauge.

The following table gives some facts about fluids of different weights:

WEIGHTS, SPECIFIC GRAVITIES AND PRESSURES OF VARIOUS FLUIDS

Fluid—	Weight per gallon (pounds)	Specific gravity	Weight per cubic foot (pounds)	Weight per cu. inch (pound)	Pressure in pounds per square inch exerted by a column 1-foot high
Water, distilled	8.33	1.00	62.35	.036	.434
Water, sea	8.55	1.03	63.95	.037	.444
Petroleum (approx. average)	7.33	.88	55.00	.032	.384
Drilling mud	9.00	1.08	67.32	.039	.467
Drilling mud	10.00	1.20	74.80	.043	.520
Drilling mud	11.00	1.32	82.28	.047	.571
Drilling mud	12.00	1.44	89.76	.052	.623
Drilling mud	13.00	1.56	97.24	.056	.675
Drilling mud	14.00	1.68	104.72	.061	.727
Drilling mud	15.00	1.80	112.20	.065	.779

PROPOSE IMPROVEMENT IN MIXING OF MUD

(Continued from Page 32)

pared mud fluid pumped to the individual wells and stored in 500-bbl. bolted steel tanks.

To remove the heaver particles of mineral from the lighter gangue in ore dressing operations in milling plants it is usual to apply the principles of classification in preparing the feed for gravity separation machines and there are a number of machines built for classification and thickening that could be adopted to drilling conditions.

To remove large particles of cuttings from the mud vibrating screens can be used to good advantage for they have already proved their worth in many industries and as now built are reliable in operation and can handle the feed at a low cost per ton. These screens are effective in removing all the material that is coarser than 60 or 80 mesh, the finer mud passing through the screen cloth while the coarser cuttings remain on top of it and are removed by any one of several mechanical means, conveyor belts, screw conveyors, water in launders or troughs, and shoveling.

The limit of the screen opening is the

[1] H. F. Beardmore, "Field Control of Rotary Mud," The Cementer, July, 1929.

determining factor in the use of vibrating screens, for if the size openings are finer than 80 mesh the rate of screening is increased so materially that the tonnage necessary to handle at the well would require the installation of a large battery of screens.

The other method of removing these cuttings is by classification, and this is done in one of several types of classifiers all working upon the same basic principles but different in their mechanical details.

Types of Classifiers

Primarily these classifiers consist of a long trough set at an angle of 20 to 30 degrees with either a flat or circular shaped bottom, in which rakes or large spiral conveyors drag the coarse material that sinks to the bottom up the incline and permits the finer material to overflow at the lower end of the trough.

It may be necessary to introduce some wash water into classifiers of this type to secure the highest efficiency and if this is the case the overflow should go to thickeners where this excess water is removed and the mud brought to the desired water-solid ratio. These thickeners are desirable in any system of this kind for they can be used to control the characteristics of the mud mixture better than any other type of equipment and properly used will pay for themselves in a reasonably short time.

Another type of thickener that can be used in connection with the removal of coarse cuttings is the inverted cone shaped vessel that permits the coarse material to settle to the apex of the cone and the fines overflow into a circular launder attached to the upper edge of the cone. This type of equipment could be used for the double duty of removing the coarse cuttings and preparing the mud for return to the hole if they are used in series, the first set to remove the cuttings, and the second set to remove such wash water as may be added in the first set of cones.

With the known conditions at the rotary wells it is thought that there need be very little experimenting with this equipment for the designers and manufacturers of any of these pieces of apparatus have had sufficient experience in other fields to readily apply their machines to the rotary drilling mud problems.

With this thought in mind a few typical conditions have been taken and several tables of quantities of material to be handled, ratios of water to solids, and weights have been prepared and are herewith presented.

Typical Well

For the purpose of the computations a typical well in the Oklahoma City Pool that is drilled to a total depth of 6,450 feet is used.

The minimum amount of cuttings that will be produced in drilling such a hole, based upon 145 pounds per cubic foot of material removed, will be as follows:

	Pounds
350 feet of 20-inch hole	110,600
1,650 feet of 12¼-inch hole	198,000
2,000 feet	308,600

This upper 2,000 feet of hole is mostly soft sedimentaries and shales and is drilled in about four days with the drill on bottom about 90 per cent of the time so this amount of cuttings is removed in about 86.4 hours or at the rate of 3,720 pounds per hour.

Below 2,000 feet the drilling is slower and the rock much harder and the following table shows progress made in that portion of the hole:

	Pounds
3,500 feet of 12¼-inch hole	420,000
950 feet of 8¾-inch hole	56,050
4,450 feet	476,050

This portion of the hole requires about 83 days drilling time and it has been determined that the drill is on bottom on an average of 17 per cent of the time so these cuttings are removed in about 340 hours or at the rate of about 1,400 pounds per hour.

The total amount of cuttings removed from a 6,450-foot hole on the basis of the above figures would be about 784,650 pounds or over 392 tons and if cavings are added it seems quite safe to assume that the total amount of material moved will be over 400 tons. At $11 per foot drilling the 6,450-foot hole would cost $70,950 and based on the tonnage crushed and moved this is about $175 per ton of cuttings.

This is compared with a crushing cost of from $0.15 to $0.50 per ton with gravity stamps which reduces the feed to 81 per cent —100 mesh. This is hard quartz and not lime or sandstone.

Another comparison can be had by considering the cost of sinking a 6.5'x10.5' shaft in hard rock without timber in Pioche, Nev., at $15.02 per foot of depth. This is about $2.50 per ton of rock removed.

In sinking No. 5 shaft in the Tamarack mine in the Lake district, Michigan, the following figures are given. This shaft was 29'2"x8'10" in the clear and had a total vertical depth of 4,580 feet.

	Average per month (feet)	Cost of sinking and timbering per foot
Surface to 140 feet	28.0	.....
140 to 986 feet	70.5	$83.13
986 to 2,015 feet	85.75	86.14
2,015 to 3,000 feet	82.08	84.80
3,000 to 3,818 feet	62.5	105.83
3,818 to 4,580 feet	63.5	132.17

This represents a cost of about $6.03 per ton of rock removed from the 3,818 to 4,580-foot levels which includes the timbering.

The cost of shaft sinking in the Pennsylvania anthracite districts is given as:

Size (feet)—	Depth (feet)	Date	Cost per foot
14 x47.3	1,175	1912	$56.67
15 x50	1,650	1912	150.00
15.2x33.5	1,009	1911	54.28
14.2x40.5	1,550	...	73.03
14 x18	1,000	1905	45.70

While it is not intended by these comparisons of figures for drilling rotary holes and sinking shafts for mining purposes to advocate mining operations in the oil industry at these great depths at this time, it does seem that the cost of drilling is excessive when the amount of material actually removed and transported to the surface is considered.

With a 14½"x7¼"x18" duplex direct acting steam driven drilling pump operating at 48 strokes per minute and 80 per cent mechanical efficiency 36,540 gallons of mud will be handled per hour, and the weight of this material for the different weight muds is as follows:

Weight of mud per gallon (lbs.)	Weight of mud handled per hour* (lbs.)
9	328,860
10	365,400
11	401,940
12	438,480
13	475,020
14	511,560
15	548,100

*These figures represent pump displacement only and do not take into account slippage and friction of mud in rotary hole.

If the amount of mud and the amount of cuttings handled per hour are added together the total amount of material in circulation will be obtained. This comparison will also give the percentage of cuttings to mud fluid handled under the various drilling conditions and in the smallest and deepest part of the hole it will be found that the percentage of cutting to mud fluid is very small.

Characteristics of Mud Fluids

In Mr. Parsons' article he appends a table giving several of the characteristics of mud fluids and based upon the information given in the first two columns of that tabulation the following additional computations have been made:

Weight per gal. pounds	Specific gravity	Weight per cu. ft. lbs.	Water per gal. lbs.	Solid per gal. lbs.	Per cent solid
9	1.08	67.32	7.93	1.07	12.0
10	1.20	74.80	7.32	2.68	27.1
11	1.32	82.28	6.65	4.35	39.3
12	1.44	89.76	6.03	5.97	49.5
13	1.56	97.24	5.40	7.60	58.0
14	1.68	104.72	4.80	9.20	66.0
15	1.80	112.20	4.20	10.80	72.2

The formula used in making these calculations is one adopted from ore dressing practice and with any two known factors any other two factors can be calculated.

Let p = per cent solids or the weight of solids in unit weight of mud; D = dilution or water-solid ratio which equals parts of water, by weight, per part of solid, and is usually written, 6:1; 3.2:1, etc, ; S = specific gravity of dry admixture (clay); and d = specific gravity of mud fluid.

Then p/S = volume of solid in unit of mud fluid, 1 — p = volume of water in unit weight of mud fluid, 1/d = volume of unit weight of mud fluid, and p/+1 — p = 1/d from which:

$$d = \frac{S}{\frac{p+S(1-p)}{D+1}} = \frac{S}{S-p(S-1)} = \frac{S}{D+\frac{1}{S}}$$

$$p = \frac{S(d-1)}{d(S-1)} = \frac{1}{D+1}$$

$$S = \frac{dp}{1-d(1-p)} = \frac{d}{1-D(d-1)}$$

$$D = \frac{1-p}{p} = \frac{S-d}{S(d-1)} = \frac{1}{p} - 1.$$

With the conditions required of rotary mud as outlined in Mr. Parsons' paper and with the large quantities of material to be handled as shown above it seems reasonable to assume that the drilling contractors and producers in the petroleum industry are going to find it necessary to incorporate into their work the known methods of handling clays and other plastic materials in other industries and use equipment that has proven itself suitable for those processes, and where town lot drilling is indulged in it will be almost a necessity to build central mud plants that can serve many wells.

Hazard at Oklahoma City

In the Oklahoma City Field there has been several wells come in out of control and casing regulations have been issued by the Corporation Commission but without mud of the proper weight used in these wells there will still be a hazard in completing them and this hazard is multiplied many times under the conditions that will prevail when wells are spaced as close as they are in a town lot drilling campaign.

With the mud prepared in central plants using machinery that can be so regulated as to give any desired character of rotary fluid that the holes may require it will be possible to keep a close check upon drilling conditions at all times and if this knowledge is properly used the hazard of drilling inside the city limits of Oklahoma City should be reduced to a minimum. Operating through a central plant will also reduce the cost of drilling because of the lowering of production costs for the mud mixtures.

The use of screens, classifiers and thickeners is not only recommended for town lot drilling conditions for it is felt that a very marked saving can be shown by the use of this salvagable equipment at any well as compared with what it is now costing to dig the large pits which only serve the one partciular well and which outlay does not permit of any salvage when that well is completed.

While the experiments now being carried on in California on both a small and large scale will be followed with much interest it is suggested that the operators of Oklahoma and Texas can also introduce the use of this equipment in several fields to good advantage and learn for themselves what can be accomplished and the manufacturers of such equipment can assist materially by applying the knowledge they have gained elsewhere to these problems, for there is no logical reason why operators in the oil industry should consider that their rotary mud problems are separate and distinct from those of other industries and by profiting from what has been learned in those industries they should be able to quickly adapt this equipment to their own conditions and profit thereby.

CAPACITY OF AJAX LINE IS 65,000 BARRELS

(Continued from Page 29)

Refining's home territory and Standard of New York's home marketing area through Beacon Oil Co., a subsidiary. The foreign marketing organization of Standard Oil Co. of New Jersey is now substantially established, and it has long been thought that the New Jersey company's next important step would be expansion in home markets on a scale that would make "Esso" a national marketing factor with a scope of activity in domestic markets comparable to that of the Shell organization and that now being developed by The Texas Company and contemplated by the new General Petroleum Corp. formed by consolidation of Standard Oil Co. of New York and Vacuum Oil Co. Several other companies, notably Continental Oil, are credited with plans for expanding through consolidations on a nation-wide scale, and such a step by Standard Oil Co. of New Jersey would be logical in vivew of the progressive and aggressive management of that organization.

An interesting sidelight to the Ajax pipe line development by Standard of New Jersey is that company's relationship with Prairie Oil & Gas Co. Prairie, formerly known as a "Standard Oil company," is expected to announce shortly its consolidation with Sinclair Consolidated Oil Co. In some quarters here the Ajax pipe line project is viewed as a direct cleavage between Standard of New Jersey and Prairie, in that the Ajax line is expected to divert considerable of the New Jersey company's business from Prairie Pipe Line. The latter company has handled in recent years considerable of Standard of New Jersey's crude transportation business in the Mid-Continent area.

Detailed plans concerning the ultimate scope of operations of the Ajax pipe line will not be announced by Standard Oil Co. (New Jersey) for some months yet, it is indicated here. The project has not yet progressed to the point where final plans are in shape for linking up the Ajax line with other Standard pipe line projects, it is emphasized, and until construction of the line has progressed further, definite details will not be decided upon. Field engineers of the New Jersey company are now working on the problem of moving crude, and possibly gasoline, from the Wood River terminal of the Ajax line to other points, but final plans will not be presented to the company's executives for approval for some time yet.

As far as can be learned here, it is not believed Standard of New Jersey plans any additional interior refinery construction, or the enlargement of the capacity of existing plants, in conjunction with the building of the new Ajax pipe line.

RUMANIAN WELL ON FIRE A YEAR THEN CRATERS

(Continued from Page 31)

from where it was conducted to the gasoline plant for handling.

The tool used in the second operation in the deep tunnel was made like a milling cutter with a pointed end and being operated by power secured from the large electric motor located in the chamber at the lower end of the tunnel it was anticipated that rapid drilling progress would be made.

In the operations carried on in the upper or first tunnel the power for the drilling of the casing was supplied through a long section of rotary drill pipe and developed through a steam engine located on the surface near the mouth of the tunnel.

As the third tunnel is about 800 feet long this method of transmitting power was not practicable so the motor was set in the chamber dug at the well and full control of operations carried on at that point.

In the manway built inside the 8'x8' tunnel there was laid a small track and the heavy pieces of equipment needed to

drill the casing are moved to the chamber through it.

With all these precautions against fire it is understood an explosion occurred May 28 when one man was killed and others injured according to press reports carried in newspapers in this country.

Ground Caves

It would seem with the recital of these operations that about everything that could happen has been recorded but such is not the case for during the Lenten holidays this spring, when all work was closed down for about one week including Easter Sunday, the surface around the well caved and a large casting that had been placed at the mouth of the well during the early stages of the operations carried the 6-inch flow pipe down into the opening and the gas then burned below the surface.

This great heat melted the pipes that had already been made very thin by the cutting of the sand that has been blown out of the well with this gas, and these pipe ends collapsed and fell into this cavity created by the settling of the earth around the well which has further added to the difficulties of conquering the fire.

From time to time short pieces of the 6, 8 and 10-inch casing has been so badly cut by the sand that they have been blown out of the well, and this cutting action is continuing and permitting gas to escape at some distance below the surface.

It is understood the surface cavings did not extend to the lower tunnel and its chamber 270 feet below the surface and it is quite likely the surface cave was largely due to a collapse of the old upper tunnels and weakening of the ground surrounding the well due to gas flowing through crevices for many months.

To control the well by killing it with mud laden fluid is part of the object of this last attempt to drill into the flow string for it is planned to pump mud into the hole through the same device that is first to be used to carry on the drilling operations. If it cannot be done in this way it is going to be difficult to kill the well from the surface now that the ground has caved and all of the upper portion of the casing melted down and is in a tangled mass in the fire.

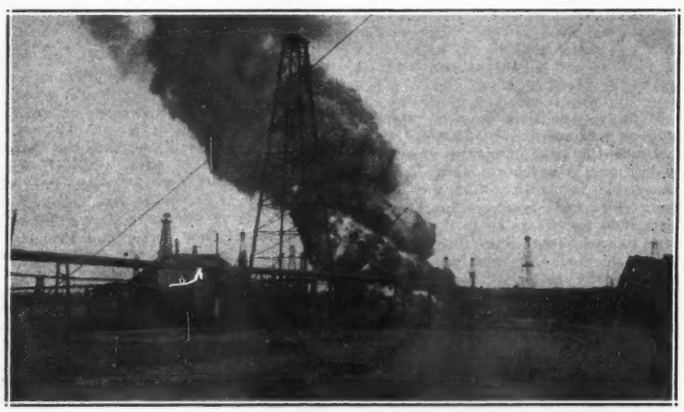
Kinley Visits Fire

Having heard of this fire through press dispatches that have come out of Rumania from time to time describing it and making report of accidents, M. M. Kinley of Tulsa organized a salvage company and with Clyde Gray of Tulsa made a trip to Rumania early this spring to offer his services, for a consideration, in fighting this fire and killing the well.

Mr. Kinley's past experience in fighting fires in this and many foreign countries is well known and he felt confident that he could conquer this one, but during his stay in Rumania the caving around the well occurred and so changed the original plan of procedure that he had outlined to the commission appointed by the Rumanian government to hear his proposal that he withdrew from the scene to await further developments, as it was finally decided by the government commission that it would proceed with the work in the lower tunnel as it had high hopes of success coming from it.

The subsidiary company of the Standard Oil Co. of New Jersey is working with the government engineers, who are directed by Vasile Lazar, in every way possible, and also hopes that this last method will bring about the desired results, but if it should fail it is probable that Mr. Kinley will be called upon to return to Rumania and take charge of operations for them.

Mr. Kinley returned to Tulsa June 2 and reports courteous treatment by everyone with whom he came in contact on his visit to the fire and while he is disappointed at not having had opportunity to try his fire-fighting methods on this fire, which he believes would be successful for he has applied similar methods to other fires of like character, he recognized the fact that the Standard Oil Co. and the Rumanian government have spent a large sum of money in their preparations to bring this well under control and could hardly be expected to give up without first giving them a thorough tryout.



View of gas fire at Test No. 160 Moreni, Rumania, taken after the well had cratered and the ground caved. The steam line carried on supports shown in this picture is the same as shown in the middle portion of the other picture, as this view was taken from a point that would be to left of the area shown in the larger picture.

Thousands of Suggestions

While this fire has been raging the Rumanian government and the operating company has been deluged with thousands of letters and proposals from men all over the world who had schemes for putting out the fire and they covered the whole range of possibilities and many of them were fantastic, to say the least, and indicated that well meaning people are still anxious to offer advice on subjects with which they have little or no actual experience, all with the hope of personal gain and glory that might accrue to them if by chance they were given consideration.

The position of the fire in the Rumanian Field and the prominence it has received in press dispatches has made it a matter of international interest, but in spite of the publicity given to it the real facts are hard to secure and The Oil and Gas Journal is indebted to Mr. Kinley for his description of events as they were recorded by him during his investigations on his recent trip to the fire, where he actually attempted to place an 18-inch nipple on the top of the surface string of casing but could not succeed because of the high gas pressure encountered.

TO STUDY SIMPSON GROUP

Geologists of southern Oklahoma and North Texas will make a field trip to the Arbuckle Mountains on June 13 and 14 in order to study the Simpson group. Dr. Charles N. Gould of the Oklahoma Geological Survey and Dr. Charles E. Decker will be in charge of the trip. Plans are being made to meet at Ardmore Thursday night, June 12. All geologists interested in the trip should get in touch with A. M. Lloyd, telephone 8775, Wichita Falls, Tex.

WILDCAT OPERATIONS IN WEST TEXAS

(Continued from Page 63)

Hickey & Stiver's No. 1 C. O. Finley, 600 ft. N and 1,980 ft. W, Sec. 20, Blk. 82 ..... Small show oil 1,331 ft.; shut down 2,907 ft.

Kornrumpf et al's No. 1 Garren, 330 ft. S and W, Sec. 15, Blk. 79, Public School Land ..... Drlg. 510 ft.

West Coast Oil & Exploration Co.'s No. 1 McGregor, C NW, Sec. 14, Blk. 81 ..... Slight show oil 740 ft.; shut down 875 ft.; may abandon.

Scott & Dittman's No. 1 Miller, 1,160 ft. N and 2,480 ft. E, Sec. 1, Blk. 97, Public School Land ..... Oil show 2,528 ft.; shut down 3,508 ft.

ECTOR COUNTY

Amerada and Skelly's No. 1-B University, 990 ft. from S and 440 ft. from E line, Sec. 2, Blk. 35, University Land ..... Drlg. 2,250 ft.

C. P. Davis et al's No. 1 Hendricks, C SW, Sec. 46, Blk. 42, Twp. 2s, T.&P.R.R. Sur. ..... Shut down 4,012 ft.

Gulf Prod. Co.'s No. 2 State-A, 330 ft. N and 440 ft. W of SE cor. N half S half, Sec. 2, Blk. 35, University ..... Drlg. 3,620 ft.; show gas 3,604 ft.

Humble Oil & Ref. Co.'s No. 8 Kloh-D, 986 ft. N and 440 ft. E of SW cor., Sec. 7, Twp. 3s, Blk. 44, T.&P. Sur. ..... Drlg. 3,660 ft.; 1,500 ft. oil in hole.

Humble Oil & Ref. Co.'s No. 7 York, 1,650 ft. N and 440 ft. E of SW cor., Sec. 16, Blk. 44, Twp. 3s ..... Drlg. 3,710 ft.; top of pay 3,655 ft.; flowed 273 bbls. in 15 hrs.

Independent Oil & Gas Co.'s No. 1 Eidson, 1,250 ft. S and 2,144 ft. E of NW cor., Sec. 6, Blk. 44, Twp. 3s, T.&P. Sur. ..... Shut down 3,800 ft.; fishing for tools.

H. F. Wurtz' No. 1 E. A. Ibbetson et al, 330 ft. from N and E lines of NW, Sec. 16, Blk. 46, Twp. 3s, G.M.M.Br.&A. Sur. ..... Shut down 511 ft.

T. P. Coal & Oil Co.'s No. 1 McKenzie, 1,650 ft. from S and 330 ft. from E of Sec. 282, Blk. 45, Twp. 2s, T.&P. Sur. ..... Shut down 3,870 ft.; swabbing dry.

Transcontinental Oil Co.'s No. 1 University, 1,650 ft. from N and 440 ft. from E line of Sec. 39, Blk. 35, University Land ..... Drlg. 3,360 ft.

R. R. Penn et al's No. 1 Goodman et al, 2,640 ft. N and 330 ft. W of SE cor., Sec. 27, Blk. 44, T.&P.R.R. Sur. .. Shut down 840 ft.; underreaming 10-in. casing.

Simms Oil Co.'s No. 3 University, 2,310 ft. from N and 330 ft. from W of Sec. 1, Blk. 35 ..... Location.

Skelly Oil Co. and Republic Prod. Co.'s No. 1 McKenzie, 990 ft. from S line and 330 ft. from E line of Sec. 28, Blk. 45, Twp. 2s, T.&P. Sur. ..... Drlg. 2,970 ft.

Sunray Oil Co. et al's No. 1 Jones, 2,330 ft. from N and 440 ft. from E of Sec. 6, Blk. 44, Twp. 3s, T.&P. Sur.. Drlg. 2,530 ft.

The Texas Company's No. 7 Connell, 2,310 ft. from S and 440 ft. from W. Sec. 1, Blk. B-16, Public School Land ..... Drlg. 3,680 ft.; flowing 138 bbls. per day by heads, est. production.

EL PASO COUNTY

Lane-The Texas Company's No. 1 Malone, 2,110 ft. from SW and NW of Sec. 46, J. M. Day Sur. ..... Drlg. 2,550 ft.

FISHER COUNTY

Cranfill & Reynolds' No. 2 Barrett, 330 ft. from N and W of NE, Sec. 199, B.B.B.&C. Sur. ..... Rig on ground.

Cranfill & Reynolds' No. 2 Flannigan, 330 ft. from S and E of W half of Sec. 200, B.B.B.&C.R.R. Sur. ... Rig on ground.

Mid-West's No. 1 Decker, 330 ft. from S and W of W 80 ac. of N 160, Sec. 8, Richardson Sur. ..... Rigging up.

Roeser & Pendleton's No. 1 Steele, 660 ft. from N and 440 ft. from W of N half of SW, Sec. 210, B.B.B.&C. Sur. ..... Drlg. 900 ft.

The Texas Company's No. 1-A Teagarden, 150 ft. from S and 420 ft. from E of Sec. 8, Richardson Sur. ..... Drlg. 860 ft.

GAINES COUNTY

Humble Oil & Ref. Co.'s No. 1 Carswell, 660 ft. S and E of NW cor. of Sec. 23, Blk. A-27, Public School Land.. Drlg. 1,565 ft.

GARZA COUNTY

Pandem Oil Corp.'s No. 1 Justice, 330 ft. from S and W of Sec. 12, Blk. 6, H.&G.N. Sur. ..... Spudded and shut down.

Richard's No. 1 Stoker, 330 ft. from N and W, Sec. 2, Blk. 2, G.H.&H. Sur. ..... Drlg. 945 ft.

GLASSCOCK COUNTY

Associated Oil Co.'s No. 1 Coffee, 2,310 ft. E and 330 ft. from S of Sec. 27, Blk. 33, Twp. 2s, T.&P. Sur. ..... Drlg. 535 ft.

California Co.'s No. 1 Jones, 330 ft. S from N and E lines, Sec. 25, Blk. 33, Twp. 2s, T.&P. Sur. ..... Shut down 2,576 ft.; testing show oil 2,516-56 ft.; bailed 5 gallons oil and 5 gallons salt water.

California Co.'s No. 2 Baker, 2,970 ft. S and 1,650 ft. E, parallel to section lines of NW cor., Sec. 23, Blk. 32, Twp. 2s, T.&P. Sur. ..... Drlg. 870 ft.

Kirby Pet. Co. et al's No. 2 Phillips, 990 ft. S and 2,310 ft. E of NW cor., Sec. 23, Blk. 33, Twp. 2s, T.&P. R.R. Sur. ..... Shut down 2,264 ft.; 1,800 ft. oil in hole; fishing for tools.

Kirby Pet. Co. et al's No. 3 Phillips, 1,650 ft. S and 2,310 ft. E of NW cor., Sec. 23, Blk. 33, Twp. 2s, T.&P.R.R. Sur. ..... Shut down 2,300 ft.; 1,900 ft. oil in hole; fishing for tools.

Timberlake & Snyder's No. 1 Meek, 2,310 ft. W and 1,600 ft. N of SE cor., Sec. 7, Blk. 34, Twp. 3s, T.P. Sur... Total depth 2,956 ft.; drlg. deeper.

World Oil Co.'s No. 3-C McDowell, 2,310 ft. from S and W of NE cor., Sec. 21, Blk. 34, Twp. 2s, T.&P. Sur.... Shut down.

World Oil Co.'s No. 1 Edwards, 330 ft. from S line and 2,310 ft. from W line of Sec. 13, Blk. 84, Twp. 2s, T.&P. Sur. ..... Drlg. 1,130 ft.

HOWARD COUNTY

Cosden Oil Co.'s No. 6 Roberts-A, 200 ft. N and E of SW cor., Sec. 129, Blk. 29, W.&N.W.R.R. Sur. ..... Sulphur water 1,433-46 ft.; shut down 1,456 ft.

McGinley-Sigler's No. 1 Hyman-C, 330 ft. N and 990 ft. W SE cor., Sec. 93, Blk. 29, W.&N.W.R.R. Sur. ..... Location.

Merriwether's No. 1 Smith, 150 ft. from S, 2,490 ft. from W, Sec. 45, Blk. 33 ..... Shut down 2,540 ft.

Moody Oil Corp.'s No. 23-B Roberts, 990 ft. from N and W of Sec. 137, Blk. 29 ..... Shut down 261 ft.

Sinclair O. & G. Co.'s No. 1 Montgomery et al, 2,310 ft. from N and W of Sec. 11, Blk. 30, Twp. 1s, T.&P. Sur. ..... Total depth 2,569 ft.; top pay 2,452-64 ft.; est. 40 bbls. on pump; will drill deeper.

HUDSPETH COUNTY

California Co.'s No. 1 University, 3,821 ft. N and 2,554 ft. E of SW cor., Sec. 19, Blk. E ..... Shut down 4,688 ft.

Western States Oil Co.'s No. 1 Gardner & Moseley, NE NW, Sec. 12, Blk. 18 ..... Fishing 3,155 ft.

IRION COUNTY

Crawford Oil Co.'s No. 1 Williams, 450 ft. from N, 150 ft. from W, Subd. 8 ..... Shut down 1,105 ft.

Cromwell et al's No. 1 Tankersley, 150 ft. from N and 210 ft. from W of E half of Sec. 1,230, G.C.&S.F. Sur... Location.

Kingwood Oil Co. et al's No. 1 J. D. Suggs, SE NW SE, Sec. 19, Blk. 7, H.&T.C. Sur. ..... Total depth 7,818 ft.; plugged back to 6,800 ft.; shot 30 qts. from 6,750-80 ft.; swabbed 2 bbls. oil daily.

Cromwell et al's No. 3 Nutt, 904 ft. from N and 116 ft. from W of Blk. 6, Gonzales Co. School Land ..... Location.
P. H. Williams' No. 1 Ash, C of Sec. 20, Washington County ..... Show oil 7,931 ft.; shut down 8,890 ft.; may drill deeper.
Webb et al's No. 1 Nutt, 150 ft. from S and 116 ft. from W of Blk. 5, Gonzales Co. School land ..... Location.
Straughan and Texannati Oil Co.'s No. 1 Nutt, 150 ft. N and E of NW NW, Blk. 6, Gonzales County School Land ..... Shut down 655 ft.

JONES COUNTY

Gibson & Johnson's No. 1 Hudspeth, 1,125 ft. from N and 483 ft. from E of Sec. 22, Edward Miles Sur. .... Cem. 10-in. casing at 1,000 ft.
Mid-Tex Oil Co.'s No. 1 King, 330 ft. E of river and 800 ft. S of N line, Sub. 1, Secd. 197, M. Bueno Sur... Topped sand 1,980 ft.; pumped 9 bbls. oil from sand at 1,961-65 ft.; total depth 1,976; pulling rods to deepen.
Shabeen et al's No. 1 King ..... 800 ft. fluid in hole; shut down 2,204 ft.; top pay 2,061 ft.; cleaning out after shot.
Shabeen et al's No. 1 King, 6,750 ft. from N and 150 ft. from E of M. Bueno Sur. No. 197. ..... Location.

KENT COUNTY

White & Smith's No. 1 Pursley estate, 1,320 ft. from E and 2,640 ft. from S of Sec. 8, Blk. H, H.&T.B. Sur... Shut down 273 ft.

LAMB COUNTY

Graham Oil & Gas Co.'s No. 1 Ellwood, CWL, Sec. 9, Blk. T, T. A. Thompson Sur. ..... Shut down 4,428 ft.

LOVING COUNTY

Dixie and Phillips Pet.'s No. 1 Johnson, 1,320 ft. from N and E of Sec. 38, Blk. 54, Twp. 2s, T.&P. Sur. .... Drlg. 2,210 ft.
Eppenauer et al's No. 1 Allen, 2,310 ft. from NE and NW lines Sec. 90, Blk. 1, W.&N.W. Sur. ..... Location.
Lockhart & Co.'s No. 3 Bowen & Wells, 330 ft. from NE and SE of Sec. 92, Blk. 1, W.&N.W. Sur. ..... Shut down 3,383 ft.
Hadlock et al's No. 2 Russell, 1,650 ft. SW of NE line, 2,310 ft. NW of SE line, Sec. 80, Blk. 1, W.&N.W. R.R. Sur. ..... Drlg. 340 ft.
Lockhart & Co.'s No. 2 fee, 676 ft. S, 330 ft. W, Sec. 91, Blk. 1, W.&N.W. Sur. ..... Spudded 140 ft.; shut down.
Lockhart & Co.'s No. 3 Hubbard, 1,650 ft. from NE line, 330 ft. NW line of Sec. 83, Blk. 33, H.&T.C.R.R. Sur... Rigged up.
Miller et al's No. 1 Chapman, 225 ft. from NW and 285 ft. from SW line, Sec. 71, Blk. 1, W.&N.W. Sur. ..... Rigging up.
Rush et al's No. 1 Wheat, 1,650 ft. from NW and 330 ft. from SW of Sec. 85, Blk. 1, W.&N.W. Sur. ..... Location.

LYNN COUNTY

Lubewell Oil Co.'s No. 1 May, 2,310 ft. S, 2,310 ft. W, Sec. 10, Blk. 7, E.L.R.R. Sur. ..... Shut down 190 ft. for casing.
George McCamey's No. 1 Edwards, 165 ft. N and E, Sec. 5, Blk. 2, L.S.&W. Sur. ..... Shut down 5,040 ft.

MENARD COUNTY

Panhandle Ref. Co.'s No. 2 Eckhart, 1,820 ft. from W and 1,320 ft. from S of Sec. 10, Blk. 2, T.W.N.G. Sur. ..... Drlg. 1,025 ft.
Priest's No. 1 Sorrel, 1,000 ft. from E and 200 ft. from S cor., Sec. 132, E.L.R.R. Sur. ..... Shut down 2,015 ft.

MIDLAND COUNTY

Pure Oil Co.'s No. 1 Hutt, 2,310 ft. from N and 330 ft. from E of Sec. 14, Blk. 38, Twp. 4s, T.&P. Sur. ..... Drlg. 3,504 ft.

MITCHELL COUNTY

Gant & Teas' No. 1 Handley, 330 ft. S and W parallel to section lines of NE cor. of SE, Sec. 12, Blk. 28, Twp. 1n, T.&P. Sur. ..... Drlg. 1,185 ft.
Morrison et al's No. 2 Morrison, 2,390 ft. from N and 660 ft. from E of Sec. 31, Blk. 28, Twp. 1n, T.&P. R.R. Sur. ..... Total depth 3,112 ft.; top pay 3,038 ft.; 1,000 ft. oil in hole; swabbing 40 bbls. in 24 hrs.
Morrison et al's No. 1 Poe et al, 660 ft. S and 1,980 ft. W parallel to section lines of NE cor., Sec. 8, Blk. 27, T.&P. Sur. ..... Spudded 10 ft. and shut down.

PECOS COUNTY

Atlantic O. P. Co.'s No. 1 Shearer, 330 ft. from NW and SW, Sec. 107, Blk. 10, H.Y.N.R.R. Sur. ..... Show oil and gas 1,052 ft. and 1,170 ft.; top pay 1,438 ft.; plugged back 1,450 ft.; pumped 20 bbls. in 24 hrs.; may shoot.
Buell & Hagan et al's No. 1-A Pecos Valley Oil Co., 150 ft. from NW and 1,470 ft. from NE of Sec. 22, Blk. 10, H.&G.N. Sur. ..... Location.
California Co.'s No. 1 Jasper Co. Realty Co., 165 ft. from NE line and 159 ft. from SE line of California Co.'s 160 acres, Sec. 21, Blk. 10, H.&G.N.R.R. Sur. ..... Show oil 1,340 ft.; shut down 1,620 ft.; first oil at 1,545 ft.; increase at 1,590 ft.; spraying little oil with 5,000,000 ft. gas.
Crosby Prod. & Ref. Co.'s No. 1 Cordova, 330 ft. from N and E of S 320 ac., Sec. 11, H.&G.N. Sur. ..... Top salt 725 ft.; shut down 2,080 ft.
Fisher & Lowrie's No. 1 Webb, C Sec. 3, Blk. 203, Tillman & Walters Sur. ..... Drlg. 2,370 ft.
Hayes et al's No. 1 Lea, C NW of NE, Sec. 9, Blk. 106, T.&St. L. Sur. ..... Location.
Humble Oil & Ref. Co.'s No. 1 Kokernot, 1,320 ft. from N line and 1,467 ft. from W line of Sec. 227, Blk. 10, G.H.&S.A. Sur. ..... Shut down 715 ft.
Kussman Oil Co.'s No. 1 Esters, 960 ft. from N and 300 ft. E. Sec. 83, Blk. OW, T.M.R.R. Sur. ..... Shut down 1,680 ft.
Independent Oil & Gas Co.'s No. 1 Jasper County School Land, 1,160 ft. from SE line, 160 ft. from NE line, Sec. 21, Blk. 10, H.&G.N.R.R. Sur. ..... Shut down 1,585 ft.; 25,000,000 ft. gas at 1,555 ft.; spraying 8 bbls. per day.
Martin A. Meyer et al's (formerly Mauch & Kroger) No. 1 Holmes, S half SW, Sec. 5, Blk. 178, T.C. Sur. .... Sulphur water 2,698 ft.
Messenger et al's No. 2 Byrne, 2,490 ft. from NE and SE of Sec. 54, Blk. 10, H.&G.N. Sur. ..... Spudded and shut down.
J. R. Miller et al's No. 1 Bennett, 359 ft. W from CWL, Sec. 1, Blk. 119, G.C.&S.F. Sur. ..... Shut down 315 ft.; to run casing.
J. D. O'Mara's No. 1 Bennett, Sec. 592, 1,460 ft. from S, 150 ft. from E, G.&C.S.F. Sur. ..... Top pay 1,089 ft.; 700 ft. fluid in hole; drlg. 1,190 ft.
J. D. O'Mara's No. 1 Streety, C of Sec. 1, W. P. Howard Sur. ..... Show oil 1,785 ft.; shut down 2,200 ft.
Oregon Oil Corp.'s No. 2 Yates, 150 ft. from S and W of Sec. 58, Blk. 1, I.&G.N. ..... Shut down 625 ft.
Peren Oil Co.'s No. 2 Eaton, C of E of W, Sec. 27, Blk. 3, H.&T.C. Sur. ..... Drlg. 1,275 ft.
Perren's No. 1 Jackson, 200 ft. from NW and SW of Sec. 28, Blk. 3, H.&T.C. ..... Spudded and shut down.
R. W. Porpus et al's No. 1 State Land, 330 ft. S and W lines of NE, Sec. 28, Blk. OW, T.C.R.R. Sur. ..... Spudded and shut down.
Phillips Pet. Corp.'s No. 3 Monroe, 3,860 ft. from N and 660 ft. from E, Sec. 29, Blk. 194, G.C.&S.F. ..... Cellar.
Pure Oil Co.'s No. 1 Harrison, 2,310 ft. from N and 330 ft. from W of Sec. 203, Blk. 3, T.&P. Sur. ..... Location.
Riser & White's No. 1 Riser, 2,297 ft. from S and 997 ft. from E of Sec. 24, Blk. 12, H.&G.N. Sur. ..... Location.
Sides & Cloyd's No. 2 Blackstone & Slaughter, C NW of Sec. 34, Blk. A-2, T.&C.R.R. Sur. ..... Shut down 2,065 ft.
Southern Crude Oil Pur. Co.'s No. 2 Eaton, 2,310 ft. from SW and SE, Sec. 35, Blk. 3, H.&T.C. Sur. ..... Drlg. 384 ft.
The Texas Company's No. 1 Wright, 660 ft. S and E of NW cor., Sec. 9, Blk. 131, T.&S.T.L. Sur. ..... Drlg. 3,250 ft.
Transcontinental Oil Co.'s No. 1 University, 1,980 ft. N and E of SW cor., Sec. 18, Blk. 18, University Land.. Shut down 4,920 ft.
Transcontinental Oil Co.'s No. 2 Perry, 330 ft. from N and E of Sec. 6, Blk. Z, T.C.Ry. Sur. ..... Fishing 505 ft.
W. F. Walsh et al's No. 1 Scharbaur Cattle Co., 330 ft. S and 990 ft. E from C, Sec. 16, Blk. 136, T.&St. R.R. Sur. ..... Drlg. 1,945 ft.
Warner's No. 1 Webb, 2,550 ft. from NW and 6,100 ft. from NE of Sec. 311, Abst. 756, C. McGinley Sur. ..... Location.

PRESIDIO COUNTY

L. C. Brite's No. 4 Brite, 271 ft. from N and 1,188 ft. from E lines of Sec. 245, Blk. 4 ..... To run casing; total depth 1,120 ft.

REAGAN COUNTY

Big Lake Oil Co.'s No. 1-C University, 2,598 ft. S and 250 ft. W of NE cor., Sec. 1, Blk. 2, University Land.. Top pay 2,903 ft.; top pay 6,807 ft.; shut down 8,658 ft.; flowing 320 bbls. oil with 8,600,000 ft. gas.
Beesley et al's No. 1 Sawyer Cattle Co., 1,320 ft. from N and 3,960 ft. from E, Sec. 8, J. G. Robinson Sur., elevation 2,586 ft. ..... Location.
Big Lake Oil Co.'s No. 4-C University, 1,120 ft. from N and 1,096 ft. from E of Sec. 1, Blk. 2 ..... Showing oil and gas at 8,220 ft.; total depth 8,220 ft.; flowing aver. 125 bbls. daily; to deepen.
Big Lake Oil Co.'s No. 5-C University, 625 ft. from S and 250 ft. from W of Sec. 25, Blk. 9 ..... Rig.
Texon Oil & Land Co.'s No. 3-B University, 2,240 ft. from S, 920 ft. from W, Sec. 36, Blk. 9 ..... Drlg. out cement 8,261 ft.
Westyde Investment Co.'s No. 1 Scott, 1,280 ft. N and 1,320 ft. from W. Sec. 177, Blk. 1, T.&P. Sur. ..... Drlg. 965 ft.

REEVES COUNTY

Exploration Co.'s No. 1 A. A. Kinney, 1,500 ft. W of NE cor., Sec. 26, Blk. C-18, Public School Land, elev. 2,847 ft. ..... Shut down 2,900 ft.
H. T. Hansford's No. 1 Williams, 150 ft. from S and W, Sec. 17, Blk. 6, H.&G.N. Sur. ..... Shut down 380 ft.
Black & Fink's No. 1 Brooks, 1,980 ft. N and 660 ft. W, Sec. 16, Blk. 59 ..... Shut down 1,860 ft.; show oil 1,820 ft.; cleaning out after two shots; filled up 200 ft. with oil.
Lee O. White et al's No. 1 Hershersor, 330 ft. from N and W lines of Sec. 5, Blk. 51, Twp. 10, T.&P. Sur.. Show oil 3,410 ft.; shut down 3,575 ft.
California Co.'s No. 1 Kloh & Rumsey, 1,650 ft. from S and E of Sec. 13, Blk. 54, Twp. 4, T.&P. Sur. ..... Drlg. 1,350 ft.

RUNNELS COUNTY

Gibson & Johnson's No. 2 Serratt, 2,310 ft. from S and 1,650 ft. from E of Sec. 150, E.T.R.R. Sur. ..... Derrick.
George W. Boyce's No. 1 Lang, 2,310 ft. N, 6,900 ft. E, Sec. 262 ..... Show oil 2,028 ft.; shut down 2,607 ft.; underreaming 8¼-in. casing.

SCHLEICHER COUNTY

Delmar Oil Co.'s No. 1 O'Harrow, C of NW, Sec. 56, Blk. 1, G.H.&S.A.R.R. Sur. ..... Drlg. 3,410 ft.
Interstate's No. 1 Whitten, 1,320 ft. from N and W. Sec. 35, Blk. LL, T.C.R.R. Sur. ..... Show gas 6,300-21 ft.; show oil 6,321-37 ft.; drlg. 6,508 ft.; bails 5 to 10 gallons oil every 3 to 5 hrs.
Teas & Gant's No. 1 Allison, 1,320 ft. N and E of SW cor. of Sec. 37, Blk. K, G.H.&S.A.R.R. Sur. ..... Drlg. 1,790 ft.
George Wilson's No. 1 Page, Sec. 40, Blk. L, 1,290 ft. from N, 1,470 ft. from W, G.H.&S.A.R.R. Sur. ..... Fishing 4,918 ft.

SCURRY COUNTY

Byrd & Harmon's No. 1 Murphy, Jr., 320 ft. from N and E of Sec. 114, Blk. 97, H.&T.C. Sur. ..... Drlg. 3,157 ft.; 2,000 ft. oil in hole.
Camp Spring Oil & Ref. Co.'s No. 3 Guinn, 1,300 ft. from S, 300 ft. from E, Sec. 12, Blk. 3, H.&T.C.R.R. Sur. ..... Shut down 4,367 ft.
I. B. Mimms et al's No. 1 J. J. Koonsman, Sec. 216, Blk. 2, H.&T.C.R.R. Sur. ..... Spudded and shut down.
G. E. Dickman and R. B. Pender et al's No. 1 F. C. Davis, 1,000 ft. N and 1,770 ft. W of SE cor. of Sec. 275, Blk. 2, H.&T.C. Sur. ..... Drlg. 4,400 ft.
Transcontinental Oil Co.'s No. 1 Peckham, 330 ft. from S and W of R. N. Miller Sur. ..... Drlg. 1,930 ft.

SUTTON COUNTY

Independent Oil & Gas Co.'s No. 1 Wilson, Sec. 30, Blk. A, 1,650 ft. from N, 2,310 ft. from W ..... Location.

TAYLOR COUNTY

Clark et al's No. 1 Kendall, 250 ft. from N and W of farm in Willis Avery Sur. ..... Spudded and shut down.
Condor Pet. Co.'s No. 1 Stoker, C of NW, Sec. 220, Blk. 64, H.T.C.C.R.R. Sur. ..... Total depth 3,003 ft.; cem. 8¼-in. casing.
Eastland Oil Co. et al's No. 1 Teaff, 150 ft. from N and W of N 109-acre farm of 219-acre tract, W. Avery Sur. ..... Drlg. 875 ft.
Gibson & Johnson's No. 1 Bingham, 330 ft. N and E of SW cor. their 270.8-acre tract, Sec. 31, Guadalupe County School Land ..... Total depth 2,412 ft.; fishing for casing.
John B. Jameson's No. 1 Webb, 1,170 ft. S and W of NE cor., Sec. 46, Lunatic Asylum Land ..... Show oil 4,917 ft.; shut down 5,933 ft.
Hucony Oil Co. et al's No. 1 Richie, C SE Sec. 10, Blk. A, S.P.R.R. Sur. ..... Shut down 1,080 ft.
Mid-Continent Pet. Corp.'s No. 1 Lindsey, 239 ft. N and 219 ft. E of SW cor., Subd. 22, Guadalupe County School Land ..... 300 ft. oil in hole; top pay 2,375 ft.; shut down 2,414 ft.; shut in for lack of connection; swabbed 75 bbls. per day.

TERRELL COUNTY

Big Bend Oil Co.'s No. 1 Bassett, C NW, Sec. 155, Blk. D, M.-K.-T.R.R. Sur. ..... Drlg. 1,955 ft.
Keck Pecos Trust Co.'s No. 1 Hamilton, C, Sec. 6, Georgetown Ry. Sur. ..... Shut down 3,150 ft.
Miller Bros.' No. 1 Allison & Burke, C NW cor., Sec. 10, Blk. 176, T.&P. Sur. ..... Shut down 120 ft.
Mrs. J. B. McPhees' No. 1 Sam Belt, C, Sec. 17, Blk. D-7, E.L.R.R. Sur. ..... Shut down 880 ft.; moved off machine.
Transcontinental Oil Co.'s No. 1 Goode, 2,152 ft. from E and 330 ft. from S, Sec. 26, Blk. 161, G.C.&S.F.R.R. Sur. ..... Shut down 4,350 ft.
Woodley & Jones' No. 1 Pankenham, C SE NW, Sec. 43, Blk. B-2, C.C.S.D.&N.G.R.R. Sur. ..... Shut down 640 ft.

TERRY COUNTY

Atlantic et al's No. 1 Carlisle, 990 ft. from S and E of Sec. 58, Blk. E, E.L.&R.R. Sur. ..... Shut down 3,322 ft.

TOM GREEN COUNTY

Cosden Oil Co.'s No. 1 William Anson, 2,310 ft. S, 330 ft. W of NE cor., Sec. 20, Blk. 24, H.T.C.R.R. Sur. ..... Spudded.
Ellis' No. 3 Lewis, 1,350 ft. S and 450 ft. E of SW cor. Jas. Webb Sur. 77, but in Albert Black Sur. 75 ..... Shut down 485 ft.; show oil 390 ft.
Fitzgerald & Taliaferro's No. 1 Bennett, C SW, Sec. 1,628, E. E. Dinger Sur. ..... Plugged back to 2,405 ft. to straighten hole; shut down 2,447 ft.
Phillips Pet. Corp.'s No. 1 Guiden, 1,250 ft. from N and 1,583 ft. W of Sec. 77, James Webb Sur. ..... Fishing 2,560 ft.
E. W. Wiley et al's No. 1 Maier, 200 ft. from E, 110 ft. from N. Sec. 6, Blind Asylum Land ..... Show oil 418-20 ft.; total depth 632 ft.

UPTON COUNTY

Cordova Union Land Co.'s No. 1 fee, 330 ft. from S and E line of Sec. 1, Blk. 1, M.-K.-T.R.R. Sur. ..... Location.

Eppenauer Drlg. Co.'s No. 1 Chaney, 1,147 ft. from N and 1,650 ft. from W of Sec. 18, Blk. 3, M.-K.-T. Sur... Top pay 2,290 ft.; total depth 2,400 ft.; plugged back to 2,382 ft.; shot 250 qts. from 2,365-90 ft.; pumping an average of 25 bbls. per day.

Eppenauer Drlg. Co.'s No. 3 Chaney, 1,147 ft. from N and 990 ft. from W, Sec. 18, Blk. 3, M.-K.-T. Sur. .. Location.

VAL VERDE COUNTY

A. Bluhm's No. 1 Yoast, 1,760 ft. N, 600 ft. W of SE cor., Sec. 31, Blk. 3, I.&G.N. Sur. ..... Shut down 760-804 ft.; half full sulphur water.

Independent Operators' No. 1 Whitehead, SE SE, Sec. 30, Blk. 4, I.&G.N. Sur., elev. 1,175 ft. ..... Shut down 4,850 ft.

O. O. Owen's No. 1 Mills, Sec. 128, Blk. 1, I.&G.N. Sur., elev. 2,130 ft. ..... Gas sand 2,491-2,520 ft.; tested 125,700 ft. gas; drlg. by tools 5,757 ft.

Phantom Oil Co.'s No. 1 Ingram, 175 ft. W of E line and 300 ft. N of S line, Sec. 33, Blk. D-8, E.L.&R.R. Sur... Show oil 1,525 ft.; fishing 3,035 ft.

Valvert Oil Corp.'s No. 1 Bassett, C NE Sec. 47, Blk. Y.. Shut down 4,009 ft.

WARD COUNTY

Atlantic and Delmar's No. 7 Hayzlett, 1,475 ft. from NW and 1,898 ft. from SW, Sec. 17, Blk. 5, H.&T.C. Sur... Drlg. 1,230 ft.

Dearborn et al's No. 1 Boogher, 1,375 ft. NE and 785 ft. SE of N cor., Sec. 7, Blk. 32, but in Sec. 11, Blk. 5, H.&T.C.R.R. Sur. ..... Drlg. 2,285 ft.; est. 2,000,000 ft. of gas.

Gulf Prod. Co.'s No. 3 Wristen Bros., 220 ft. NE of SW and 220 ft. SE of NW, Sec. 18, Blk. 5, H.&T.C. Sur... Show gas 1,960-70 ft.; filling up with sulphur water 2,520-27 ft.; salt water 2,545 ft.; plugged back to 2,477 ft.

R. F. Owens' No. 1 Johnson, 100 ft. from NE and 1,100 ft. from SE of Sec. 8, Blk. 33, H.&T.C.R.R. Sur. ..... Shut down 380 ft.

Tex-Oil Prod. Co.'s No. 1 Redman, 1,980 ft. NE of SW line and 1,980 ft. SE of NW line, Sec. 152, Blk. 34, H.&T.C.R.R. Sur. ..... Shut down 5,077 ft.

Richardson's No. 3 O'Brien, 322 ft. from N and 1,680 ft. from W of Sec. 5, Blk. F ..... Drlg. 500 ft.

Shipley et al's No. 5 Hayzlett, assume common line Secs. 16 and 17, is N and S, 220 ft. S and 1,910 ft. W, Sec. 17, Blk. 5 ..... Standard rig.

Shipley et al's No. 1 Monroe, 330 ft. SE SW, Sec. 3, Blk. 1 ..... Drlg. 1,060 ft.

J. E. Smith's No. 1 Clement, 152 ft. SW of NE line and 153 ft. SE of NW line, Lot 7, Sec. 7, Blk. 32, H. & T.C.R.R. Sur. ..... Shut down 2,138 ft.; show gas 2,130 ft.

Sturm & Paine's No. 1 Cummins, 748 ft. from NE and 155 ft. from NW of Sec. 7, Blk. 32, H.&T.C.R.R. Sur... Total depth 2,350 ft.; shut down.

Sun Oil Co.'s No. 1 Sealy, 330 ft. from N and E of Sec. 88, Blk. F, G.M.M.B.&A. Sur. ..... Shut down 2,590 ft.

WINKLER COUNTY

A. W. Phillips' No. 2 Brown et al, 2,000 ft. S and W of NE, Sec. 4, Blk. B-5, Public School Land ..... Top salt 1,300 ft.; shut down 2,832 ft.; show oil 2,775-85 ft.

Liner Drlg. Co.'s No. 1 Campbell, 330 ft. from N and E cor., Sec. 2, Blk. B-5 ..... Drlg. 3,840 ft.

Shell and The Texas Company's No. 1-B Cowden, 600 ft. from S and W of Sec. 39, Blk. B-5, Public School Land ..... First gas 2,290 ft.; increase 2,580 ft.; total 3,500,000 ft. gas (estimated); moving in rotary.

Shell et al's No. 8 Scarborough, 1,020 ft. from N and 1,650 ft. from E of Sec. 2, Blk. 77, Public School Land ..... Shut down 3,391 ft.; swabbed 28 bbls. June 4.

Simms Oil Co.'s No. 1 Sealy, C of SE Sec. 49, Blk. F, G.M.M.B.&A. Sur. ..... Rigging up rotary.

WILDCAT OPERATIONS IN TEXAS PANHANDLE

(Continued from Page 64)

CASTRO COUNTY

Colorado O. & R. Co.'s No. 1 Slemmons, SW cor., Sec. 73, Blk. M-17, B.S.&F. Sur. ..... Rig blown down.

Mystery Oil Co.'s No. 1 J. I. Crum, SE cor. NE, Sec. 333, Blk. M-6, S.K.&K. Sur. ..... S.D. 510 ft. for csg.

CHILDRESS COUNTY

Continental Oil Co. and Sun Oil Co.'s No. 1 Johnson, 660 ft. NE, Sec. 580, Blk. H, W.&N.W. Sur. ..... Drlg. 3,305 ft.

C. L. Sloane et al's No. 1 B. P. Smith, Sec. 49, F. P. Knott lands ..... T.D. 5,000 ft.; C.O.

COLLINGSWORTH COUNTY

Shope Bros.' No. 1 Aldus, 410 ft. N, 330 ft. E, Sec. 96, Blk. 16, H.&G.N.R.R. Sur. ..... Show oil and gas 1,678 ft.; bailed estimate 10 bbls. first day from G.W. 2,194-98 ft.; T.D. 2,725 ft.

Shoupe Bros.' No. 1 Whitson, 330 ft. N and E, SW, Sec. 33, Blk. 12, H.&G.N.R.R. Sur. ..... Standard rig.

DONLEY COUNTY

Blue Bonnett Oil Co.'s No. 1 Ball, 1,075 ft. N line, 985 ft. E line, Sec. 22, Blk. E, D.&P.R.R. Sur. ..... T.D. 3,006 ft.; contract depth.

Marine Oil Co.'s No. 1 Sawyer, C SW, Sec. 5, Blk. G, G.C.&S.F. Sur. ..... S.D. 4,025 ft.

GRAY COUNTY

Amalgamated German-American Oil Co.'s No. 1 Webb, 330 ft. S and W, E½ NW, Sec. 12, Blk. A-9, H.& G.N. Sur. ..... Rigging up.

Baldridge & Lilley's No. 1 Melton, 330 ft. N and W, E½ SE, Sec. 95, Blk. B-2, H.&G.N.R.R. Sur. ..... T.D. 3,086 ft.; sprayed 1 bbl. oil per hour from 3,030 ft.; estimated 15,000,000 ft. gas 2,918 ft.

Cockrell-McIlroy Oil Co.'s No. 1 Allam, 330 ft. N and E of E½ of NE¼, Sec. 127, Blk. 3, I.&G.N. Sur. .. Location.

Cockrell-McIlroy's No. 1 Horner, 330 ft. S and E, NE, Sec. 139, Blk. 3, I.&G.N. Sur. ..... Rig.

Cockrell-McIlroy Oil Co.'s No. 1 Sailor, 330 ft. out of NW SW NE, Sec. 138, Blk. 3, I.&G.N. Sur. ..... Drlg. 2,895 ft.

Danciger O. & R. Co.'s No. 1 Catlin et al, 175 ft. S, 300 ft. E of N 71 ac. of E 231 ac., Sec. 57, Blk. 3, I.&G.N. Sur. ..... S.D. 2,650 ft.

Danciger O. & R. Co.'s No. 5 Morse, 330 ft. N and E, SW SW NW, Sec. 1, Blk. 26, H.&G.N.R.R. Sur. ..... S.D. 2,505 ft.

Danciger O. & R. Co.'s No. 1 Shaw, 330 ft. S, 286 ft. E of E 39½ ac., NW, Sec. 5, Blk. 1, A.C.H.&B. Sur..... Drlg. 2,748 ft.; spraying 30 bbls. oil and 13,000,000 ft. gas daily.

Empire G. & F. Co.'s No. 2 Hexter, C SE, Sec. 235, Blk. B0Z, H.&G.N. Sur. ..... Fishing 2,855 ft.

Empire G. & F. Co.'s No. 1 Whittemore, 2,310 ft. N and W, Sec. 14, Blk. 4, I.&G.N. Sur. ..... Location.

Gardner Bros. and Collins' No. 2 Saunders, 955 ft. S, 330 ft. E of W 68 ac., E½, J. G. Eustice Sur. ..... Location.

Humble O. & R. Co.'s No. 1 Young, C SW, Sec. 110, Blk. 3, I.&G.N. Sur. ..... Drlg. 600 ft.

Jewell Oil Co.'s No. 1 Harrah, 330 ft. N and W, of W 40 ac., S 120 ac., E 240 ac., Sec. 163, Blk. 3, I.& G.N. Sur. ..... Rig.

LeFlore Pet. Corp.'s No. 1 Wilson, 330 ft. N and E, Sec. 1, B.S.&F. Sur. ..... Drlg. 1,310 ft.

Lenix et al's No. 1 Bradford, 330 ft. N and E, W½ SE, Sec. 118, Blk. B-2, H.&G.N.R.R. Sur. ..... 8,000,000 ft. gas 2,400 ft.; drlg. 2,760 ft.; 7,000,000 ft. gas at 2,740 ft.

Lyon et al's No. 1-A Morse, 330 ft. S and W, NW NW, Sec. 1, Blk. 26, H.&G.N.R.R. Sur. ..... Drlg. 2,205 ft.

Jean Pet. Co.'s No. 1 Furneaux Bros., 330 ft. N and W cor. SE, Sec. 200, Blk. B-2, H.&T.N. Sur. ..... S.D. 2,050 ft.

Magnolia Pet. Co.'s No. 1 Cubine, 330 ft. N and W, NE, Sec. 36, Blk. 25, H.&G.N.R.R. Sur. ..... 9,000,000 ft. gas 2,325-35 ft.; fishing 2,775 ft.

McAuley et al's No. 4 Morse, 330 ft. N and W, SE cor. NE, Sec. 2, Blk. 26, H.&G.N.R.R. Sur. ..... Drlg. 900 ft.

Midwest Explin. Co. et al's No. 1 Waggoner, 1,320 ft. W, 330 ft. N, Sec. 173, Blk. 3, I.&G.N. Sur. ..... Drlg. 300 ft.

Nelson et al's No. 1 Crews, 330 ft. S and E, NW, Sec. 12, Blk. 25, H.&G.N. Sur. ..... Spudded and S.D.

Oil Operators' No. 1 Bowers, 330 ft. N, 330 ft. E, Sec. 93, Blk. B-2, H.&G.N. Sur. ..... Show oil and gas 2,400-17 ft.; S.O. 3,036-55 ft.; first gas 2,483 ft., increase at 2,500 ft., 2,544 ft. and 2,950 ft.; S. D. 3,200 ft.; swbd. 24 bbls. in 24 hrs.

Prairie Oil & Gas Co.'s No. 1 Carey, 372 ft. from W and 330 ft. from N of Sec. 114, Blk. 3, I.&G.N. Sur. ..... Location.

Saulsbury et al's No. 1 Sheridan, 330 ft. S and E, W½ NE, Sec. 184, Blk. B-2, H.&G.N. Sur. ..... S.D. 1,280 ft.

W. A. Scott's No. 1 Cobb, 330 ft. S, 425 ft. W, N½ SE, Sec. 184, Blk. 3, I.&G.N. Sur. ..... S.D. 2,270 ft.

So. Pet. Explin. Co.'s No. 1 Vaughn, 330 ft. N and W, SW, Sec. 133, Blk. 3, I.&G.N. Sur. ..... T.D. 3,211 ft.; S.G. 3,155 ft.; T.P. 3,160 ft.; shot 100 qts. from 3,155-92 ft.; swabbed 10 bbls. per hour before shot; C.O. and swabbing.

Reynolds et al's No. 1 Webb, 330 ft. N, 330 ft. E, NW, Sec. 60, Blk. 25, H.&G.N.R.R. Sur. ..... Drlg. 2,427 ft.

Stover and Shell's No. 1 Saunders, 990 ft. N, 330 ft. E, N 100 ac. of W 149 ac., Sec. 3, B.&B. Sur..... 2,000,000 ft. gas 2,670-75 ft.; T.D. 2,956 ft.; shot 60 qts.; no results; C.O.

Vulcan O. & G. Co.'s No. 1 Carpenter, 330 ft. N and W. W 80 ac., NW, Sec. 25, Blk. 25, H.&G.N.R.R. Sur. ..... S.D. 2,780 ft.; T.P. 2,740 ft.; 350 ft. oil in hole.

Wilson et al's No. 1 Heaston, 330 ft. S and W. Sec. 160, Blk. B-2, H.&G.N.R.R. Sur. ..... S.D. 2,615 ft.

Wright Wilson, trustee's No. 1 Chapman, 175 ft. S and E lines, N½ NW, Sec. 69, Blk. 25, H.&G.N. Sur. ..... S.O. 2,685 ft; S.D. 2,800 ft.

HUTCHINSON COUNTY

Alamosa Oil Co.'s No. 4 Sanford, 310 ft. S, 320 ft. W, NE cor. N 160 ac., S 240 ac., Sec. 85, Blk. 46, H.& T.C. Sur. ..... S.O. and wtr. 3,010-11 ft.; S.D. 3,095 ft.

Continental Oil Co.'s No. 1 Johnson-E, 330 ft. N and E, SW cor. SE, Sec. 5, Blk. I, B.&B. Sur. ..... Plugging back; T.D. 3,610 ft.

Danciger O. & R. Co.'s No. 1 Cheatham, 330 ft. N and E, SW SE, Sec. 38, Blk. Y, A.&B. Sur. ..... Drlg. 2,535 ft.

Huber & Co.'s No. 1 Christian, 330 ft. E and 990 ft. N of SW¼ Sec. 33, Blk. Y, A.&B. Sur. ..... Location.

Phillips Pet. Co.'s No. 1 Johnson-Trammel, 930 ft. N, 330 ft. W, SE cor. W½ NW, Sec. 38, Blk. Y ..... T.D. 3,250 ft.; plugging back.

Phillips Pet. Co.'s No. 1 Johnson-Mayer, 990 ft. N and 990 ft. W line, NE, Sec. 37, Blk. Y, A.&B. Sur..... Fishing 2,955 ft.

Phillips Pet. Co.'s No. 1 Johnson-Rudy, 330 ft. W, 330 ft. S, SW SW, Sec. 30, Blk. Y, A.&B. Sur. ..... T.D. 3,346 ft.; P.B. 2,975 ft. to test.

Phillips Pet. Co.'s No. 1 Vake (Hazel), 330 ft. N and W, Sec. 4, Blk. XO2, H.O.&B. Sur. ..... U.R. 10-in. csg.; T.D. 1,495 ft.

Sinclair O. & G. Co.'s No. 1 Johnson Bros., 330 ft. N and E, NW, Sec. 32, Blk. Y, A.&B. Sur. ..... Spudding.

Skelly Oil Co.'s No. 1 Johnson Bros., 660 ft. S and W, SE, Sec. 30, Blk. Y, A.&B. Sur. ..... T.D. 430 ft. U.R. 15-in. csg.

Spurlock et al's No. 1-A Christian, 440 ft. S, 330 ft. W, NE cor. SE SE, Sec. 33, Blk. Y ..... Drlg. 2,390 ft.

Texarado Oil Co.'s No. 2 Stanford, 330 ft. S, 990 ft. W, NE cor., N 80 ac., S 160 ac., Sec. 33, Blk. 46, H.& T.C.R.R. Sur. ..... T.D. 3,096 ft.

LAMB COUNTY

Graham O. & G. Co. et al's No. 1 Ellwood, CWL, Sec. 9, Blk. T, T. A. Thompson Sur. ..... S.D. 4,408 ft.

LIPSCOMB COUNTY

Brown et al's No. 1 Box T Ranch, SW NE, Sec. 612, H.&T.C. Sur. ..... S.G. 3,760 ft.; S.D. 4,142 ft.; U.R. 6⅝-in. csg.

Okla. Public Service Co.'s No. 1 C. W. Jones, NE SW, Sec. 100, H.&T.C. Sur. ..... S.D. 4,954 ft.

LUBBOCK COUNTY

Center Oil Co.'s No. 1 Bowles Ranch ..... Small S.O. 1,133-40 ft.; S.D. 4,10[illegible] ft.

MOORE COUNTY

Delmar Oil Co.'s No. 1 Jones, 990 ft. E, 330 ft. N, NW, Sec. 171, Blk. 3-T, T.&N.O. Sur. ..... Rigging up.

Fritch O. & G. Co.'s No. 1 Lee Bivins, C N 40 ac., N 160 ac., Sec. 4, George Mahan Sur. ..... S.D. 3,212 ft.

Gulf Prod. Co.'s No. 1 Kilgore, C SW, Sec. 22, Blk. P.Mc., E.L.R.R. Sur. ..... Gas estimated 15,000,000 ft. 2,[illegible] 60 ft.; drlg. 3,584 ft.

Shamrock O. & G. Co.'s No. 1 Shory, 330 ft. N and W, NE, Sec. 187, Blk. 3-T, T.&N.O. Sur. ..... Drlg. 2,705 ft.

MOTLEY COUNTY

Explin. Co.'s No. 6 Matador, 330 ft. N line, 330 ft. E line, Sec. 132, Blk. M ..... Drlg. 4,020 ft.

Matador Oil Corp.'s No. 1 Owens, C NE, Sec. 10, Blk. G. B.&B. Sur. ..... S.D. 580 ft.

POTTER COUNTY

Canadian River Gas Co.'s No. 1-N Masterson, 330 ft. E, 1,320 ft. S, Sec. 17, Blk. 3, G.&M.R.R. Sur. ..... S.D. 2,720 ft.

Texas Interstate P. L. Co.'s No. 1 Masterson, C Sec. 37, Blk. B-10, E.L.R.R. Sur. ..... Drlg. 400 ft.

RANDALL COUNTY

W. A. Patterson's No. 1 Palo Duro, Sec. 60, Blk. K-14.... S.D. 1,250 ft.

ROBERTS COUNTY

Big Bend Oil Co.'s No. 1 Ledrick, Sec. 7, Blk. A-5 ..... Shot 10 qts. 5,270-93 ft.; S.O. 5,288 ft.; S.D. 5,992 ft.

WHEELER COUNTY

Anderson's No. 1 Reneau, C SW NE, Sec. 98, Blk. 23, H.&G.N. Sur. ..... S.D. 725 ft.

Dunaway Bros.' No. 1 Worley, 330 ft. S and W, NE cor. NW, Sec. 39, Blk. 24, H.&G.N. Sur. ..... T.D. 2,230 ft.; 15,000,000 ft. gas at 2,025-2,230 ft.

Johnson et al's No. 2 Hicks, 890 ft. W, 990 ft. S, Sec. 49, Blk. 17, H.&G.N. Sur. ..... S.D. 825 ft.

Lone Star Gas Co.'s No. 1 Brown, C NW NE, Sec. 53, Blk. 23, H.&G.N.R.R. Sur. ..... Location.

Lone Star Gas Co.'s No. 1 Finley, C SW NW, Sec. 66, Blk. 17, H.&G.N. Sur. ..... Drlg. 1,740 ft.

Lone Star Gas Co.'s No. 2 Hicks (Martin), C NW NE, Sec. 52, Blk. 17, H.&G.N.R.R. Sur. ..... Drlg. 325 ft.

Lone Star Gas Co.'s No. 1 Ridinger, C NW NW, Sec. 65, Blk. 17, H.&G.N. Sur. ..... Rig on ground.

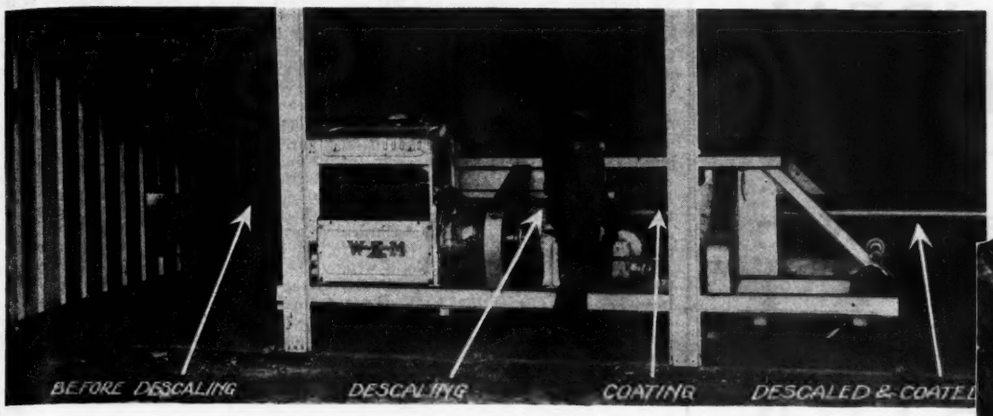
McGee et al's No. 1 Jolly, C NE, Sec. 15, Blk. A-8, H.&G.N. Sur. ..... S.D. 500 ft.

Murphy's No. 1 Pike, cen. NE¼ of SW¼ Sec. 50, Blk. 17, H.&G.N. Sur. ..... Location.

Upham Gas Co.'s No. 1 Hoshor, C SE SW, Sec. 69, Blk. 17, H.&G.N. Sur. ..... S.G. 1,684 ft.; S.D. 1,840 ft.

Wischkamper et al's No. 1 Kiser, 330 ft. N and E of SW¼ Sec. 33, Blk. 17, H.&G.N. Sur. ..... Location.

LONGER LIFE FOR STEEL LINE PIPE

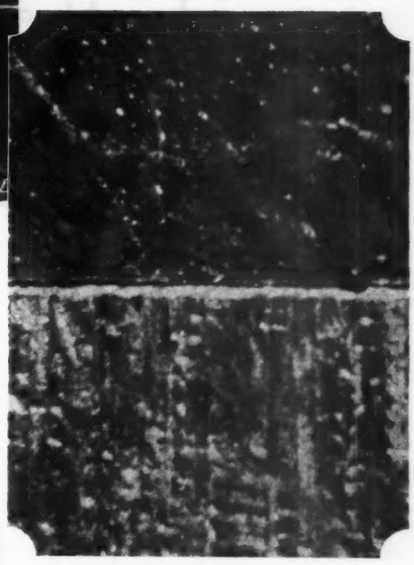


DESCALING
Preserves the Pipe . . . .

Unless all mill scale is thoroughly removed, you are simply painting the scale and *not the actual pipe surface.*

For this reason, *descaling* (removal of all mill scale) is absolutely necessary in the preparation of the pipe surface before applying the protective coating. This thorough cleaning also eliminates the destructive galvanic action between mill scale and steel pipe.

When you specify Chester *descaled* pipe, every particle of mill scale is removed and the pipe is given a priming coat before it leaves the descaling machine.



Top half shows the mill scale magnified 10 times.

Lower portion shows same pipe descaled and slightly roughened to grip and bind the protective coating to the pipe.

Complete particulars and quotations gladly furnished on request.

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H. A. Morse, 30 Church St., New York City
J. P. Cooney, 715-716 A. G. Bartlett Bldg., Los Angeles, Cal.
J. P. Steele, 305 Petroleum Bldg., Fort Worth, Texas

District Offices:

J. D. Swartz, 1231 S. Evanston St., Tulsa, Oklahoma
H. S. Chancey, 2218 Mills St., Houston, Texas
E. L. Moseley, 3114 Tenth Street, Wichita Falls, Texas
District Warehouses: Houston, Texas; Thenard, Calif.; San Francisco, Calif.

Distributors:

Prichard Supply Co., Mannington, W. Va.
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LeValley, McLeod, Kinkaid Co., Inc., Elmira and Olean, N. Y.

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Wagner Supply Co., Fort Worth, Cross Plains, Breckenridge, Iraan, Wink, Forsan and Odessa, Texas.

United Pipe & Supply Co., Charleston and Danville, W. Va., Paintsville, Ky.
Pelican Well Tool & Supply Co., Shreveport, La.

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CHESTER

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LINE PIPE

For AJAX IDEAL ROLLER BEARING engine we now provide the new— BADGETT SPECIAL STEAM LUBRICATOR

SAVES SIX WAYS!

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The Badgett Steam Lubricator is a positive and regular feed. This model is made and designed especially for the Ajax Ideal Roller Bearing Engine.

Order Badgett Steam Lubricator Equipment now and end all of your lubrication troubles. Good lubrication, that means money to you, the life of your machinery, the time of your workmen. Badgett special steam lubricators eliminate packing piston rods on engines and pumps. Here are some present users of Badgett Special Steam Lubricators.

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You are not obligating yourself when you write for details.

Sold through leading supply houses in the Mid-West and through the National Supply Co. in the state of California.

BADGETT STEAM LUBRICATOR COMPANY

CHICKASHA, OKLAHOMA

KENTUCKY FIELDS

Continued from Page 60)

James C. Ellis and others' No. 3 well, 600 feet from the north line and 200 feet from the east line of the Perry Talley farm, in the Haynesville area, produced 25 bbls. initial, while No. 2 on the J. P. Simpson was dry in both the Jett and Barlow sands.

In the Friendship Church area of Ohio County, Harry L. Ogle and others' No. 25 on the Pate Royal is estimated at 30 bbls., while No. 26 is said to show for close to 100 bbls. initial. Three C's Oil & Gas Co. and others' No. 2 on the Lon Smith, in the Bell's Run area, reported at 20 bbls., and No. 2 on the Harden Shley, same area, was dry.

Leeper Oil Co. and others' No. 3 well, 200 feet from the south line and 600 feet from the west line of the J. W. Greer, in the Whittaker Pool, had an initial of 50 bbls., while E. G. Purtle and others' No. 8 on the Charles Roach 130 acres, same area, was a duster. Maple, Liles and others found a 6-bbl. pumper in No. 2 on the Margaret Roberts, in the Bell's Run Pool.

In the old Bartlett Pool, James C. Ellis and others' No. 1 on the Melvin Bartlett reported at 60 bbls., and Vickers, White and others' No. 1 Crow farm at 75 bbls. from 27 feet of pay sand.

Daviess County

Hupp, Duff and others' No. 1 on the W. G. Hayden farm, in the Maxwell Field, Daviess County, produced 50 bbls. initial. Petroleum Exploration Co.'s test on the Romney Graham farm showed for 5 bbls.

Henderson County

In the Niagara Field of Henderson County, the Evansville Oil Syndicate's No. 1 on the Niagara Church Lot pumped 5 bbls. H. C. Wilson and others' No. 1 W. C. Powell farm, same pool, produced 500,000 feet of gas. Fred Esslinger and others report a dry hole on the L. Akins farm, half a mile west of Robars, same county.

Eastern Kentucky

In Lee-Estill County, in the Beattyville Field, the Petroleum Exploration Co.'s No. 6 on the Trabue farm produced 25 bbls. initial. In District 16, C. G. Mays' No. 6 Medley S. Cole farm produced 2 bbls., and in District 17, same county, the First National Bank of Jackson got a 5-bbl. pumper in No. 4 on the Darch & Short heirs farm.

In Lawrence-Johnson Counties, District 22, the Swiss Oil Corp.'s No. 37 on the Jess Lyons farm pumped 5 bbls. from the Weir sand. Same company's Nos. 53, 55 and 61 P. P. Holbrook farm, from the same formation, produced 25, 4 and 3 bbls., respectively.

In Johnson-Magoffin Counties, District 27, the Magoffin Oil Corp.'s No. 5 on the Williams heirs was dry in the Weir sand. In District 29, the Peoples Pittsburgh Trust and others' No. 2 Sam Lemaster farm pumped 3 bbls.

In Clay County, the Petroleum Exploration Co.'s No. 1 on the Begley Coal Co.'s 155 acres produced 700,000 feet of gas, while No. 1 on the Green Ferguson was a dry hole. In Jackson County, Petroleum Co.'s No. 5 on the Wolfork Land Co.'s property, near McKee, produced 260,000 feet of gas. In Bell County, a test drilled by unknown parties near Red Bird settlement on Red Bird Creek is reported around 2,000,000 feet of gas.

Louisville Hopes for Oil

Louisville is all agog over what they think will prove an oil field. While drilling soil tests along the Ohio River between Shawnee Park and Kentucky State Fairgrounds for a new southwestern outfall sewer, the drill reached around 50 feet in the shale when oil gushed forth much to the astonishment of the workmen, and for a time bubbled and foamed. A pocket of gas and oil was opened in the shale formation and for hours after the flow had ceased the water was covered for some distance.

The Messenger-Inquirer says: E. R. Hastings, attorney for the Selby Oil & Gas Co. of Tulsa, arrived in Owensboro, Ky., to complete deals for leases in this field with J. Frank Rhodes and B. B. Rhodes.

The Illinois Pipe Line Co. is completing a 3-mile line from the main line to the Barrett Hill farm where Miller & Damron, or the Creek Drilling Co., recently found a good producer southwest of the town of Maxwell, and all available tankage is full of crude. There are around a dozen strings of tools running in the Maxwell Pool, which lies in the corner of three counties, Ohio, Daviess and McLean.

The Petroleum Exploration Co. has purchased 100 miles of pipe line from the Cumberland Pipe Line Co. The deal includes 96 miles of 4-inch and 12 miles of 6-inch. Starting at Somerset in Pulaski County, the line passes through Laurel, Clay, Perry, Owsley, Breathitt and ends at Licking River in Magoffin County. The Trico-News says: "According to the terms of the sale, the Cumberland Pipe Line Co. transfers to Petroleum Exploration all pipe, fixtures and other properties connected with the main oil line between the points designated, together with the Manchester pumping station. In addition to the pipe line, the transaction includes the telegraph lines following the main trunk system and other fixtures which go to successfully operate the oil line." No reasons have been made public by the Cumberland Pipe Line Co. for disposing of the property in this particular section of Kentucky and neither has Petroleum Exploration given out a statement of any proposed plans that the company may have in mind following the purchase of the pipe line.

A. J. Hanlin and others report an 8-bbl. pumper on the Ira Guffey farm, in District 13, Monticello Field of Wayne County. Missouri-Kansas Pipe Line Co. has secured a franchise to furnish natural gas in Madisonville, Hopkins County, Kentucky. C. M. Root, a well-known operator in the Buford Field of Ohio County, is starting a wildcat on the J. R. Troutman farm, west of Liva, on the west side of the Livermore Pike, in McLean County. Doug Bolling is drilling on the Herbert Coy farm, in the Haynesville area of Ohio County. Brown and others are drilling No. 4 T. L. Hickey in the Bell's Run Pool, same county. Three C's Oil & Gas Co. is drilling No. 3 Hill Rhodes, same field. H. C. Smith Co. is drilling on the J. G. Rysekkburghe farm in the Whittaker Pool, Ohio County. Ira C. Huff is drilling on the Widow Miller farm in the Cane Run area. Hupp, Duff and others' No. 3 Bratcher farm, also in Cane Run, is due for completion, as is the same firm's second test on the F. H. Noel farm in the Maxwell area.

TENNESSEE

Tennessee possibilities of oil and gas are once more making a showing in the northern portion of the State. Advice from a well-known oil man and geologist states that the Missouri-Kansas Pipe Line Co. has purchased the test drilled some time ago by John H. McClurkin on the Doctor Tucker farm, on Long Fork in the eastern part of Macon County, Tennessee, and that this company will pipe the gas to Lafayette and Red Boiling Springs at once, as surveyers are now running lines from the well to the two spots. The Missouri-Kansas company will also drill a number of tests on the same structure worked out four years ago, while Mr. McClurkin was attempting to find oil. A number of large eastern gas-producing concerns are preparing to test the northern tier of Tennessee counties and the state geologist announces that at least 30 wells have been contracted for and that 7 are making ready to start drilling. Gas has been found and piped to Cookville, Gainesboro and Carthage and franchises have been granted in a dozen towns in the central part of the State and a company is preparing to pipe the gas from the Sunbright Field to Chattanooga. It is the intention of the Missouri-Kansas Pipe Line Co. to extend its system to Old Hickory and Nashville and to connect its Tennessee lines with its network in western Kentucky at Bowling Green, where an 8-inch line is to supply Franklin, Russellville and Madisonville, drawing its gas from a group of wells in the corner of Metcalf, Hart and Barren Counties.

WILDCAT OPERATIONS IN OKLAHOMA

(Continued from Page 42)

Otstot's No. 1 Tabor, C NE NE SE Sec. 23-26-3w ..... Abandoned 5,353-68 ft.

GARVIN COUNTY

Nelson et al's No. 1 Strickland, NE SW Sec. 10-4-3 ..... Shut down 2,675 ft.

GREER COUNTY

I. T. I. O. et al's No. 1 fee, C SW NE Sec. 17-6-24w ..... Fishing 2,286 ft.

HARMON COUNTY

Harmon-Tex Oil Co.'s No. 1 Hoadley, NE cor. Sec. 17-4-24w ..... Shut down 1,510 ft.
S. M. Stauffer's No. 1 Castleman, SW NE Sec. 8-4-26w.. Shut down 625 ft.

HARPER COUNTY

Empire's No. 1 Bruce, C NE SW Sec. 12-25-20w ..... Drlg. 4,920 ft.
Sinclair Oil & Gas Co.'s No. 1 Howell, C SW SW Sec. 14-26-24w ..... Rigging up standard tools 8,580 ft.

HASKELL COUNTY

Mid-Western's No. 1 Polster, C NE SE Sec. 33-10-22 ..... Drlg. 2,715 ft.
Holden's No. 1 Phillip, SE cor. Sec. 3-9-18e ..... Shut down 1,860 ft.
Marion Oil's No. 1 Sanders, NW NE SW Sec. 10-9-18e.... Shut down 2,387 ft.
Sanboise Gas' No. 1 Unknown, SW NW SE Sec. 32-9-21e.. Shut down 2,100 ft.

HUGHES COUNTY

Wright et al's No. 1 Ott, SE SW Sec. 15-5-11 ..... Drlg. 950 ft.

Canady et al's No. 1 Kanard, NW SW Sec. 29-9-12 ..... 1,000,000 ft. gas 2,284 ft.; total depth 2,815 ft.; drlg. 3,630 ft.
Irwin et al's No. 1 Jones, SE NW Sec. 30-5-10 ..... Drlg. 3,615 ft.

KAY COUNTY

Alco Royalty Co.'s No. 1 Wolf, SE SW SE Sec. 34-26-2w.. Drlg. 1,970 ft.
Waggoner Pet. Co.'s No. 1 Hinkle, C SW NW NW Sec. 3-26-3 ..... O.W.D.; drlg. 3,567 ft.
Blankenship Petroleum Co.'s No. 1 Hansen, SW NW SW Sec. 17-27-2 ..... Drlg. 2,125 ft.

KINGFISHER COUNTY

Galt Brown's No. 1 Wolf, NW SE Sec. 6-16-7w ..... Shut down 6,015 ft.

KIOWA COUNTY

Merrick Oil Co.'s No. 1 Kelly, NW cor. SE Sec. 20-7-17w. Shut down 1,525 ft.

LEFLORE COUNTY

Red Bank Oil Co.'s No. 1 fee, SE SW NW Sec. 23-9-24... 15,000,000 ft. gas; total depth 5,488 ft.; C.O.

LATTIMER COUNTY

Limestone Oil & Gas Co.'s No. 1 Murray, NE cor. Sec. 25-5-18 ..... Drlg. 1,320 ft.
Limestone O. & G. Co.'s No. 1 Shaw, NW cor. NE NW Sec. 23-5-18e ..... Drlg. 3,310 ft.

LINCOLN COUNTY

Turman Oil Co.'s No. 1 Knox, NE SW Sec. 28-17-2 ..... Rig.
Atlantic Oil Prod. Co.'s No. 1 Parker, SE NW Sec. 5-14-6 ..... Location.
Magnolia Pet. Co.'s No. 1 Winship, NE SW Sec. 2-13-4... Drlg. 1,560 ft.
Tom Slick Oil Co.'s No. 1 Hammer, SE NW NW Sec. 35-16-2 ..... R.U.S.T. 5,144 ft.

LOGAN COUNTY

Prairie and Slick's No. 1 Morgan, NW NE Sec. 33-16-1w ..... Shut down 4,245 ft.
Eason Oil Co.'s No. 1 Young, C SW NE SW Sec. 34-17-4w. Spudding.
Haley & Smith's No. 1 Guier, SE cor. SW Sec. 33-18-3w.. Shut down 3,970 ft.

McINTOSH COUNTY

T. C. Young's No. 1 Derrison, Sec. 3-12-15 ..... Fishing 2,325 ft.
Patterson et al's No. 1 Smith, SW cor. NW SE Sec. 32-9-16 ..... Shot 240 qts. 5,446-5,559 ft.; shot went off up hole; fishing.

MURRAY COUNTY

Chieftain Royalty Corp.'s No. 1 Hendrix, SW SE NW Sec. 27-2-2 ..... Shut down 900 ft.

MUSKOGEE COUNTY

Sioux Oil Co.'s No. 1 Unknown, NW SE Sec. 21-11-19.... Shut down 1,011 ft.

NOBLE COUNTY

Weaver & Craigin's No. 1 Frederick, C SW NE Sec. 4-24-1w ..... Drlg. 1,775 ft.
Gypsy Oil Co.'s No. 1 Bergstrom, SE NE Sec. 28-22-1w.. Drlg. 4,880 ft.

OKFUSKEE COUNTY

Flynn & Morgan's No. 1 Burton, NE SW SE Sec. 14-13-9.. Drlg. 3,488 ft.
Irwin et al's No. 1 Allen, SE SW NE Sec. 15-13-9 ..... Drlg. 3,645 ft.
Henry Oil Co.'s No. 1 Harjo, Sec. 36-12-9 ..... Shut down 2,795 ft.
E. L. Robinson's No. 1 Rice, NW Sec. 2-10-9 ..... Location.
Shepard et al's No. 1 Neveas, SE NW SW Sec. 3-12-10.. Shut down 3,661 ft.

OKLAHOMA COUNTY

L. C. Hivick's No. 1 Sunset Addition, NW SW NW, Sec. 17-11-3w ..... Rig.
Mid-Kansas Oil & Gas Co.'s No. 1 Messer, SW cor. Sec. 32-14-3w ..... Drlg. 300 ft.
Prairie and Slick's No. 1 Dill, SE NW Sec. 17-13-3w.... Drlg. 5,657 ft.
Warr et al's No. 1 Castle, SW NW Sec. 20-11-3w ..... Drlg. 5,388 ft.
J. F. Cuniff, trustee's No. 1 Church Land, NE SW SE Sec. 17-12-4w ..... Drlg. 6,090 ft.
Magnolia and Ramsey's No. 1 Johnson, C NE SW Sec. 35-13-3w ..... Drlg. 6,508 ft.
Ryan Consolidated's No. 1 Lawton, NE NW Sec. 3-11-2w.. R.U.S.T. 6,558 ft.
Tom Slick Oil Co.'s No. 1 Martin, C NW NW Sec. 13-13-1w ..... T. D. 6,971 ft.; water; plugging back 6,871 ft.; testing.
Hall & Briscoe's No. 1 Holmes, NE cor. SW SE Sec. 10-11-3w ..... Drlg. 6,340-6,419 ft.; 10,826 bbls. 10 hours; completed.

OSAGE COUNTY

Western American Oil Co.'s No. 1 NW SE Sec. 28-23-6.. Drlg. 765 ft.

PAWNEE COUNTY

L. E. Wentz' No. 1 G. Lilly, SE SW NE, Sec. 26-22-3 .... Location.
Flynn & Morgan's No. 1 Jones, SW NE Sec. 22-20-5 ..... Shut down 50 ft.
Cochran et al's No. 1 Green, NE cor. SW Sec. 15-23-5 .... Rig.

PITTSBURG COUNTY

Empire O. & R. Co.'s No. 1 Williams, C NE SE Sec. 33-7-16e ..... Fishing 3,975 ft.

ROGER MILLS COUNTY

Bucy & Stone's No. 1 Williams, C SW Sec. 23-12-24w ... Shut down 2,245 ft.
L. C. Hivick's No. 1 Davis, C NW NE Sec. 4-11-26w ..... Shut down 2,905 ft.

SEMINOLE COUNTY

Pure Oil Co.'s No. 1 Shaffer Ashby, SE NE Sec. 22-7-5 .. Drlg. 885 ft.
T. Adkins et al's No. 1 McGilbray, SE NE Sec. 4-8-8 .... Drlg. 2,050 ft.
Magnolia and Twin State Oil Co.'s No. 1 Harns, SW NE Sec. 8-5-6 ..... Drlg. 3,330 ft.
Sunray Oil Co.'s No. 1 Sunday, NW SE Sec. 35-5-5 ..... Location.

WASHITA COUNTY

Southern Inv. Co.'s No. 1 Musie, NW cor. Sec. 10-9-20w... Shut down 280 ft.

WOODS COUNTY

Peerless O. & G. Co.'s No. 1 Crowell, C NW NE Sec. 23-28-16w ..... Drlg. 6,135 ft.
Gypsy-Prairie et al's No. 1 Thompson, SE cor. SW Sec. 10-25-15w ..... Shut down 6,104 ft.
Sinclair Oil & Gas Co.'s No. 1 Showwalter, C SW SW Sec. 33-27-16w ..... Shut down 6,790 ft.

WOODWARD COUNTY

Farrond et al's No. 1 Unknown, SE cor. SW SE Sec. 2-22-17w ..... Shut down 1,387 ft.
Prairie Oil & Gas et al's No. 1 Wilbur, NE cor. NW Sec. 22-23-17w ..... Drlg. 7,108 ft.
Burgoyne Brothers' No. 1 Merkins, SW cor. SE NE Sec. 15-21-19w ..... Shut down 1,910 ft.

OKLAHOMA PANHANDLE

CIMARRON COUNTY

Magnolia's No. 1 School Land, C SW NE Sec. 27-5-5 ..... Drlg. 100 ft.

TEXAS COUNTY

Palo Alto Oil Co.'s No. 1 Graves, NE SW SW Sec. 23-2-18e ..... Spudded; shut down.

Argus Prod. Co.'s No. 1 Ralston, C SW Sec. 23-6n-14e .... Rig.

SOUTHERN OKLAHOMA

ATOKA COUNTY

Bryant-Croxton's No. 1 Mason, NW SE NW Sec. 4-1s-14.. Drlg. 1,580 ft.
Brookshire's No. 1 Guinn, NW cor. Sec. 18-3s-10 ..... Shut down 100 ft.

BRYAN COUNTY

Bush et al's No. 1 Commerce Trust, NE cor. Sec. 35-6s-9 ..... Drlg. 400 ft.
Johnson et al's No. 1 Ussery, SE SW SE Sec. 14-16s-7e... Shut down 385 ft.
Slab Oil Co.'s No. 1 Ryle, NW SE SE Sec. 27-6s-7 ..... Shut down 1,350 ft.
Marshall's No. 2 fee, C SW SE NW Sec. 26-5s-7 ..... Shut down; 6-in. csg. 265 ft.

CARTER COUNTY

Campen-Lasater Co.'s No. 1 Anderson, NE cor. SE NE SE Sec. 32-4s-2 ..... Shut down 2,590 ft.

CHOCTAW COUNTY

Choctaw Petroleum Co.'s No. 1 Wilson, SW cor. SW Sec. 15-6s-19e ..... Shut down 1,346 ft.

COMANCHE COUNTY

Pelwin Oil Co.'s No. 1 Tafepirdy, C NW NE NE Sec. 5-1s-9w ..... Rig.

COTTON COUNTY

Empire O. & R. Co.'s No. 1 Chambers, NW SE Sec. 8-3s-9w ..... Shut down 4,432 ft.

JOHNSTON COUNTY

N. A. Neff's No. 1 Chapman, C SW NW Sec. 20-4s-5 .... Location.

LOVE COUNTY

Hobbs et al's No. 1 Roberts, NE cor. SW Sec. 20-6s-3w.... Drlg. 1,520 ft.
Gilcrease Oil's No. 1 Burkhart, NE NW Sec. 13-6s-1..... Rig.

MARSHALL COUNTY

Wheeler et al's No. 1 Taylor, NE NW NW Sec. 8-7s-6e... Drlg. 220 ft.
Akers et al's No. 1 Spicer, SW SE SE Sec. 33-5s-7e ..... Rig.

McCURTAIN COUNTY

Milton et al's No. 1 Vase, SW NW Sec. 26-6s-21 ..... Shut down 2,287 ft.

STEPHENS COUNTY

C. W. Willis' No. 1 Fair, SE SW SE Sec. 33-1-8w ..... Drlg. 1,800 ft.
R. Southard's No. 1 McKinney, NE cor. Sec. 25-1-8n ..... Rig.
Wirt Franklin Petroleum Corp.'s No. 1 McPhail, NW SE Sec. 1-2s-7w ..... Drlg. 4,152 ft.

TILLMAN COUNTY

Bridwell's No. 1 Pan-te-chee, NE SE Sec. 4-4s-16w ..... Shut down 835 ft.
Flake's No. 1 Barba, NE SE NE SE Sec. 19-1s-16w ..... Shut down 1,185 ft.
Allen Brothers' No. 1 Howell, SW NE Sec. 13-1-17w ..... Shut down 1,040 ft.

WILDCAT OPERATIONS IN KANSAS

(Continued from Page 44)

EDWARDS COUNTY

Dixie and Amerada's No. 1 McCarty, SW cor. Sec. 22-25-17w ..... Water 4,647-90 ft.; shut down 5,100 ft.

ELLIS COUNTY

Central Commercial Oil Co.'s No. 1 Helms, SE cor. NE Sec. 2-12-20w ..... Drlg. 1,602 ft.
Streeter & Stearns' No. 1 Leiker, SW NE Sec. 26-13-20w.. Drlg. 2,670 ft.
Byrene et al's No. 1 Fisher, NW SE Sec. 4-11-20w..... Shut down 1,000 ft.
Rush Oil Co.'s No. 1 Gatewood, NW cor. NW Sec. 4-15-20w ..... Fishing 3,357 ft.

ELK COUNTY

Croft & Frazier's No. 1 Keys, SE NE Sec. 26-31-10 ..... Rig.
Exchange Oil Co.'s No. 1 Rittig, NW SW Sec. 28-31-10.. Drlg. 1,000 ft.

FORD COUNTY

McNabb et al's No. 1 Fowler, C SE Sec. 26-27-22w ..... Shut down 400 ft.
Swain et al's No. 1 Kenthorne, C NW Sec. 21-25-24w.... Drlg. 3,095 ft.

GOVE COUNTY

Valerius & Baucher Oil Co.'s No. 1 Todd, NW cor. Sec. 24-13-27w ..... Drlg. 380 ft.

GRAHAM COUNTY

Gulf Coast Oil Co.'s No. 1 Johnson, C S half Sec. 27-8-25w. Shut down 4,340 ft.
Naylor et al's No. 1 St. John, NW SE SE Sec. 27-8-25w.. Drlg. 3,015 ft.

GRANT COUNTY

McKenna et al's No. 1 Sullivan, NE cor. Sec. 12-29-38w.. Shut down 50 ft.

GREENWOOD COUNTY

C. L. Mahan's No. 1 Binns, SE NW Sec. 23-27-11 ..... Abandoned 1,910-50 ft.
Mallory's No. 1 Denchfield, SE NW Sec. 12-27-9 ..... Shut down 660 ft.
Bundy, Smith & O'Neil's No. 1 Ford, NE NW Sec. 28-25-13 ..... Shut down 50 ft.
F. Konkay et al's No. 1 Rock, NW NE NE Sec. 7-27-12.. Drlg. 1,820 ft.

HARPER COUNTY

Beeler et al's No. 1 Bear, C NE Sec. 21-31-6w ..... Shut down 1,830 ft.

HARVEY COUNTY

Gypsy Oil Co.'s No. 1 Hege, SE NW SE Sec. 13-22-2w.... Drlg. 3,443 ft.
Gypsy Oil Co.'s No. 1 Shine, SE SW Sec. 26-22-3w..... Drlg. 3,565 ft.

KIOWA COUNTY

Phillips-Prairie's No. 1 Bean, NE SE Sec. 10-30-17w..... Shut down 1,250 ft.
McKenna et al's No. 1 Ralson, C NE Sec. 14-28-20w ..... Rig.

LINN COUNTY

Ferguson & Hiatt's No. 1 Carple, NE SE SW Sec. 22-21-22 ..... Sand 1,180-1,202 ft.; water; abandoned.

LYONS COUNTY

Sheedy et al's No. 1 Pyle, NE cor. Sec. 1-20-10 ..... Spudding.

MARION COUNTY

Empire Oil & Ref. Co.'s No. 1 Hiebert, SE SW SE Sec. 20-20-2 ..... Drlg. 638 ft.
Marshall et al's No. 1 Higgins, NE cor. Sec. 33-19-5.... Rig.

MARSHALL COUNTY

Swicker & Sincox's No. 1 Remple, C N half NW Sec. 22-4-9 ..... Shut down 1,000 ft.
Brazier et al's No. 1 Runkel, SE NW Sec. 13-2-6 ..... Rig.

McPHERSON COUNTY

Simmons & Canary's No. 1 Bishop, NW SW Sec. 15-18-1w ..... Rig.
Harry Skelly et al's No. 1 Neufeldt, SE NE Sec. 19-21-3w ..... Rig.
Milmac's No. 1 Decker, NW cor. Sec. 11-20-3w ..... Drlg. 3,022 ft.

MIAMI COUNTY

Clark's No. 1 Vaughn, SE SW Sec. 28-17-22w ..... Shut down 980 ft.

MORTON COUNTY

McNabb et al's No. 1 Rickart, C SE Sec. 5-35-39w ..... Rig.
Argus Prod. Co.'s No. 2 Chambers, C SE Sec. 21-34-39w.. Location.
Argus Prod. Co.'s No. 1 Mangels, C NW Sec. 4-34-39w.... Location.
Argus Prod. Co.'s No. 1 Tillet, C SW Sec. 21-34-39w..... Location.
Argus Prod. Co.'s No. 1 Sullivan, C NW Sec. 29-34-39w.. Location.
Argus Prod. Co.'s No. 1 Burton, C SE Sec. 11-33-40w.... Location.
Argus Prod. Co.'s No. 1 Mangels, C SE Sec. 4-33-39w.... Location.
Argus Prod. Co.'s No. 1 Patterson, C NE Sec. 5-33-39w.... Location.
Argus Prod. Co.'s No. 1 Morgan, C SW Sec. 6-33-39w.... Location.
Argus Prod. Co.'s No. 1 Thompson, C SW Sec. 8-33-39w.. Rig.
Argus Prod. Co.'s No. 1 Mangels, C SW Sec. 19-33-39w... Location.
Argus Prod. Co.'s No. 1 Mangels, C NE Sec. 20-33-39w... Location.
Argus Prod. Co.'s No. 2 Haywood, C NW Sec. 31-33-39w.. Drlg. 750 ft.
Argus Prod. Co.'s No. 1 Garner, C SE Sec. 18-33-39w.... Location.
Argus Prod. Co.'s No. 1 Dreibelbis, C NE Sec. 9-34-39w.. Rig.
Argus Prod. Co.'s No. 1 Morgan, C NW Sec. 8-33-39w.... Location.
Argus Prod. Co.'s No. 1 Hayward, C NW Sec. 31-33-39w.. Fishing 1,425 ft.
Argus Prod. Co.'s No. 1 Little, C SE Sec. 24-34-40w..... Drlg. 2,055 ft.
Argus Prod. Co.'s No. 1 Watson, C NE Sec. 27-34-40w.... Rig.
Argus Prod. Co.'s No. 1 Mangle, C SW Sec. 6-34-39w.... Drlg. 2,300 ft.
Argus Prod. Co.'s No. 1 Thompson, C SW Sec. 7-34-39w.. Drlg. 1,875 ft.
Argus Prod. Co.'s No. 1 Rolla State Bank, C NW Sec. 8-34-39w ..... Drlg. 1,580 ft.
Argus Prod. Co.'s No. 1 Hayward, C SW Sec. 9-34-39w.. Drlg. 1,250 ft.

Argus Prod. Co.'s No. 1 Thompson, C NW Sec. 18-34-39w. Location.
Argus Prod. Co.'s No. 1 Darth, C NE Sec. 20-34-39w. Drlg. 1,400 ft.
Argus Prod. Co.'s No. 1 Hawe, C SW Sec. 31-32-39w. Location.
Argus Prod. Co.'s No. 2 Armstrong, C SW Sec. 4-34-39w. Drlg. 2,310 ft.
Argus Prod. Co.'s No. 1 Hayward, C SW Sec. 9-34-39w. Fishing 1,425 ft.
Argus Prod. Co.'s No. 1 Dixon, C SE Sec. 18-34-39w. Drlg. 2,545 ft.
Argus Prod. Co.'s No. 1 Chambers, C NW Sec. 25-33-40w. Drlg. 1,665 ft.
Hydraulic Oil Co.'s No. 1 State Land, NW SE Sec. 22-34-43w. Shut down 1,060 ft.
Argus Prod. Co.'s No. 1 Low, C SE Sec. 16-33-40w. Rig on ground.

MORRIS COUNTY

Henderson et al's No. 1 Selsman, SW SE Sec. 24-16-9. Rig.
Urschell et al's No. 1 Scott, NE NW Sec. 6-16-6. Shut down 2,115 ft.

PAWNEE COUNTY

Skelly Oil Co.'s No. 1 Milhouse, C SE Sec. 34-23-17w. Drlg. 3,826 ft.

PRATT COUNTY

Wilcox O. & G. Co.'s No. 1 Bappin, SW NW Sec. 7-26-15w. Drlg. 3,730 ft.

RENO COUNTY

Phillips Pet. Co. and Tom Palmer's No. 1 Harsch, NE SE Sec. 14-26-5w. Spudding.
United Pet. Co.'s No. 1 Houston, NW cor. Sec. 4-22-10w. Rig.
C. A. Cheney and M. M. Valerius' No. 1 Stevens, C NE SE NE Sec. 6-26-7w. Drlg. 3,100 ft.

RICE COUNTY

Hershey Golden & Skelly's No. 1 Brandenstein, Sec. 10-19-10w. Location.
Griffith et al's No. 1 King, NW cor. 8-19-10w. Rig.
McPherson and Shell's No. 1 Jennings, NE SW NW Sec. 29-18-6w. Drlg. 405 ft.
Miller & Brown's No. 1 Schartz, Sec. 14-20-10w. Drlg. 1,020 ft.
Hoffner, Lee & Shell's No. 1 Slad Farm Corp., C SW Sec. 33-19-6w. Shut down 50 ft.
Tatlock et al's No. 1 Ploog, C SW SE Sec. 33-18-9w. Drlg. 1,250 ft.
Burgher's No. 1 Fair, C SE NE NE Sec. 14-21-10w. Shut down 4,003 ft.
Danciger et al's No. 1 Bell, C SW Sec. 16-19-8w. Drlg. 3,498 ft.
McCulloch et al's No. 1 Williams, C NE Sec. 35-20-8w. Drlg. 3,290 ft.

RILEY COUNTY

Grey et al's No. 1 Smith, NE SE Sec. 30-6-6. Shut down 2,518-25 ft.; water; abandoned.
Derby & Shaw's No. 1 Lindstrom, NE cor. Sec. 32-7-5e. Abandoned 2,270 ft.

ROOKS COUNTY

A. H. Kruger's No. 1 Steis, NW SE SW Sec. 12-9-16w. Shut down 570 ft.
Streater-Stearn's No. 1 Conger, SE NW NE Sec. 16-10-16w. Rig.

RUSH COUNTY

Syndicate Oil Co.'s No. 1 Lannen, C SW Sec. 11-18-16w. Location.
McPherson O. & G. Co.'s No. 1 Brack, C NW Sec. 24-17-16w. Rig.
Syndicate Oil Co.'s No. 1 Mohr, C SW Sec. 2-18-16w. Spudding.
Danciger Oil & Refining Co.'s No. 1 Nave, NW cor. Sec. 26-17-17w. Total depth 3,606 ft.; shut down.

RUSSELL COUNTY

Streater & Stearns' No. 1 Mitchell, SE cor. Sec. 6-15-14w. Rig.
Empire O. & R. Co.'s No. 1 Herbel, NW NE SW Sec. 26-14-14w. Rig on ground.
Slick et al's No. 1 Berrick, SE SW Sec. 23-15-13w. Rig.
Empire and Prairie's No. 2 Ochs, SE NE Sec. 23-15-14w. Rig.
Austin Drlg. Co.'s No. 1 Rochfellow, SE cor. Sec. 6-13-12w. Shut down 425 ft.
Imo O. & G. Co.'s No. 1 Wambley, SE NW NE Sec. 7-14-14w. Drlg. 2,530 ft.
Gilbreath et al's No. 1 Bratton, C NE Sec. 33-11-13w. Shut down 1,010 ft.

SEDGWICK COUNTY

Tavender et al's No. 1 McLean, SE SW SE Sec. 23-26-1w. Shut down 975 ft.

SALINE COUNTY

Twin Mounds Oil Co.'s No. 1 Weis, C W half NE NW Sec. 20-13-4w. Shut down 1,410 ft.
Dixie Oil Co.'s No. 1 Miller, NE SE SE Sec. 9-16-3w. Drlg. 2,460 ft.

SHAWNEE COUNTY

Jenkins & Scott's No. 1 Sherman, NW NE Sec. 28-10-15. Shut down 985 ft.
Jenkins & Scott's No. 1 Haden, NE SE Sec. 8-12-14. Shut down 2,325 ft.

SHERIDAN COUNTY

Mandalin O. & G. Co.'s No. 1 Unknown, C SE SW SW Sec. 27-7-26w. Spudded; shut down.

STAFFORD COUNTY

Boucher Oil's No. 1 Christenson, NW cor. Sec. 22-22-11w. Drlg. 1,855 ft.
Boucher Oil's No. 1 Groves, NE cor. Sec. 9-22-11w. Cleaning out 2,035 ft.
Midwest's No. 36 Richardson, SE cor. Sec. 36-22-12w. Drlg. 1,820 ft.

STEVENS COUNTY

Argus Prod. Co.'s No. 1 Sherwood, C NW Sec. 33-33-37w. 5,000,000 ft. gas; completed 2,650-2,854 ft.
Argus Prod. Co.'s No. 1 Porter, C SW Sec. 27-32-37w. Shut down 2,593 ft.
Argus Prod. Co.'s No. 1 Shaffer, C SE Sec. 6-35-38w. Location.
Argus Prod. Co.'s No. 1 Stone, C NE Sec. 3-33-39w. Location.
Agate Oil Co.'s No. 1 Gregory, NW SE Sec. 19-33-38w. Rig.
Argus Prod. Co.'s No. 1 Libon, C NE Sec. 2-34-39w. Rig.
Argus Prod. Co.'s No. 3 Armstrong, C SE Sec. 3-34-39w. Drlg. 1,865 ft.
Argus Prod. Co.'s No. 1 Roach, C NE Sec. 34-32-38w. Drlg. 1,710 ft.
Argus Prod. Co.'s No. 1 Asher, C NW Sec. 7-35-37w. Drlg. 2,425 ft.
Argus Prod. Co.'s No. 1 Barrow, C SW Sec. 32-34-38w. Rigging up standard tools 2,483 ft.
Argus Prod. Co.'s No. 1 Bride, C SW Sec. 25-33-37w. 5,500,000 ft. gas; comp. 2,626-2,890 ft.
Argus Prod. Co.'s No. 1 Cross, C SE Sec. 19-32-37w. 13,000,000 ft. gas; comp. 2,660-2,873 ft.
Argus Prod. Co.'s No. 1 Porter, C SW Sec. 27-32-37w. Rigging up standard tools 2,593 ft.
Mangle et al's No. 1 Youngren, C SE NW Sec. 24-32-39w. Spudding; shut down.
W. Sidwell et al's No. 1 Kelly, SW cor. NE Sec. 16-34-38w. Shut down 1,600 ft.

SUMNER COUNTY

Magnolia Pet. Co.'s No. 1 Shriver, NW SW Sec. 9-33-2. Rig on ground.
Disney et al's No. 1 Fay, C E half SE Sec. 14-34-1w. Rig.
E. B. Shawver's No. 2 Work, C NE SE Sec. 29-34-2. Drlg. 1,000 ft.
Hatfield's No. 1 Dauber, NE cor. Sec. 18-30-1w. Abandoned 50 ft.
Davidson et al's No. 1 Strickland, SW cor. SE Sec. 12-35-1w. Rig.

TREGO COUNTY

Dixie and Amerada's No. 1 Reitmayer, C NE NE Sec. 19-14-21w. Abandoned 4,456 ft.
Day et al's No. 1 Guyler, SW NE NE Sec. 36-12-21w. Shut down 50 ft.

WILDCAT OPERATIONS IN NEBRASKA

FRANKLIN COUNTY

U. R. Drlg. Co.'s No. 1 Brunkle (twin well), C NW SW NE Sec. 2-3n-13w. Rig.

CHASE COUNTY

Chase Pet. Co.'s No. 1 Ingold, C NE Sec. 24-6n-38w. U. R. 5-in. csg.; T. D. 4,265 ft.

FURNAS COUNTY

Southwestern Pet. Corp. of Nebraska's No. 1 Montague, SE SW SW Sec. 28-1n-22w. Shut down 1,750 ft.
Graham Bros.' No. 1 Edwards, NW SW Sec. 13-2n-22w. Shut down 3,250 ft.

PHELPS COUNTY

Trees Oil's No. 1 Bergan, Sec. 22-6-19w. Rig on ground.

RICHARDSON COUNTY

Norton et al's No. 1 Albin, NE cor. Sec. 26-1-14. 10-in. csg. 1,600 ft.

ROCK COUNTY

North Central Dev. & Drlg. Co.'s No. 1 Leonard, SE cor. NE Sec. 14-32-18w. Drlg. 900 ft.

WEBSTER COUNTY

Mid-Kansas Exploration Co.'s No. 1 Platt, C SE one-half Sec. 2-1n-11w. Shut down 555 ft.

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

(Continued from Page 49)

BROOKS COUNTY

Houston Oil Co. of Texas' No. 1 Wormser-Holbien, 1,550 ft. S, 2,650 ft. E of intersection of Lisandro Saenz & Manuel Saenz tracts, El Palo & Blanco de Maguellas grant, SW of Lasater discovery gas. Location.
Humble Oil & Ref. Co.-Shell Pet. Corp.'s No. 2 Wm. Singels, 1,320 ft. W of E line, 1,800 ft. S of N line of Sec. 312, Alta Verde area, 7 miles SE from Lasater gas field. T. D. 2,046 ft.; drlg. in shale and gumbo.

BEXAR COUNTY

Moore-Jauer's No. 1 Holly R. Ellison. T. D. 2,105 ft.; drlg. in sand and broken lime rock.
J. M. Russell's No. 1 A. O. Miles, 1,600 ft. N line, 600 ft. W line 450-ac. tract, Angel Navarro Sur., 10 miles S from San Antonio. T. D. 220 ft.; shut down.
Henry Yelvington et al's No. 1 Beck, 365 ft. from W line, 310 ft. from S line 100-ac. tract, SW cor. of P. W. Hays Sur., 7 miles E from San Antonio. T. D. 1,470 ft.; shut down for casing.
Dingman Drilling Co.'s No. 7 C. N. Cassin, 625 ft. from W line, 900 ft. from S line of 10,000-ac. tract in the J. M. Urriegas Sur., 5 miles SE from San Antonio. T. D. 1,508; drlg.

CALDWELL COUNTY

Brousche & Wilson's No. 1 Riddle, 150 ft. from SW line, 600 ft. from SE line of Addison Luton Sur., 8 miles NE from Lockhart. Spudded in.
Keen & Malcolm's No. 1 Mollie McNeal in the George Kimball Sur., 2,500 ft. W line, 860 ft. N line, 1 mile S from old Luling Field. T. D. 2,430 ft.; shut down in Edwards; old well reinstated.

DEWITT COUNTY

Gibson & McIntyre's No. 1 William Van Roeder. T. D. 1,430 ft.; shut down.
Republic Prod. Co.-Simms Pet. Corp.'s No. 1 E. T. Clark 778-ac., 1,450 ft. from SE line, 7,500 ft. from SW line of tract in the Jose Santos, 4 miles S from Yorktown. T. D. 4,673 ft.; abandoned, dry.
Louisiana Oil & Ref. Co.'s No. 1 William Kleavermann 100-ac., 400 ft. out of the NE cor. of tract, 3 miles SW of Nordheim near Karnes County line in the Robert Gallettry Sur. T. D. 3,165 ft.; drlg. in black shale and sand.
Russell & Slick's No. 1 G. W. Weisgarver, 619 ft. N line, 1,200 ft. E line of 125-ac. farm in W cor. of county in the W. M. Lytle Sur. T. D. 300 ft.
H. T. Roe's No. 1 Leinhardt. T. D. 2,215 ft.; working over rig.

DUVAL COUNTY

T. W. Callahan and W. M. Howard's No. 1 J. M. Luby, 3,960 ft. N line, 3,960 ft. W line Sur. 24. T. D. 2,800 ft.; drlg.
Southern Crude O. P. Co.'s No. 1 John Dinn, 3,450 ft. S line, 119 ft. W line of Sur. 480. T. D. 3,960 ft.; sand 3,944-50 ft.; 15 fourbles sand, water and gas.
Southern Oil Co.'s No. 1 Welder Wood, Sur. 216. T. D. 2,593 ft.; abandoned.

EDWARDS COUNTY

Phillips Pet. Corp.'s No. 2 A. G. Holman, 330 ft. from N and E lines of SE of tract, C.C.S.D.&N.G.R.G. Sur. No. 25. T. D. 3,656 ft.; drlg. in lime.

FAYETTE COUNTY

Muldoon Oil Co.'s No. 1 J. A. Kerr, 2,900 ft. from S, 3,250 ft. from W of M. Muldoon Sur., 2 miles W of Muldoon. T. D. 2,500 ft.; temporarily shut down.
Hoffer-Stanton's No. 1 M. E. Manton, 700 ft. from N line, 275 ft. from E line 102-ac. tract in the W. H. Taylor Sur., 8 miles NE from Muldoon. Drlg. 1,150 ft. in sandy shale.

GOLIAD COUNTY

Humble Oil & Ref. Co.'s No. 1 Lackey & Weldon, 2,000 ft. from SE and SW lines of the Lackey & Weldon 1,000 ac. tract out of the most SW cor. thereof, in the Javiano Gomez Sur. T. D. 4,264 ft.; sand 4,251-64 ft. tested salt water.
Dr. Hewitt et al's No. 1 Roy, 200 ft. each way out of SW cor. of B.&B. Sur. Spudding in.
A. G. Riemenschneider's No. 1 A. T. Fromme, 275 ft. from N line, 912 ft. W line of 300-ac. tract, P. Dexter Sur. T. D. 250 ft.; drlg.
Wm. F. Morgan's No. 1 Peirrie, 7,600 ft. SW of NE line, 2,550 ft. SW of NW line of Fannie Peirrie 2,350-ac. tract, SW part of county in the Vincente Ramon Sur. T. D. 4,244 ft.; drlg. in sandy shale.

GONZALES COUNTY

Acme Oil & Royalty Corp.'s No. 1 Weber, Thomas Wright Sur. T. D. 2,350 ft.; shut down.
P. A. Hoffman et al's No. 1 Bovier, 150 ft. N and W lines in the James Stewart Sur., 5 miles NW from Waelder. T. D. 1,850 ft.; shut down (now carried as Mardon Oil Co.).
A. J. Keiffer et al's No. 1 B. B. Dix, 5,550 ft. W of E line, 2,775 ft. N of S line (Guadalupe River) in the Ira Nash Sur., 4 miles SE from Darst Creek. T. D. 2,800 ft.; shut down.
Atlbus et al's No. 1 C. Martin, 268 ft. from N line, 2,650 ft. W line 210-ac. tract in the M. A. Williams Sur. T. D. 2,020 ft.; shut down.
Finnell & Elam's No. 1 J. F. Robinson, 2,000 ft. N line, 4,420 ft. E line, in the J. H. Livergood, 2½ miles NE from Waelder. T. D. 2,545 ft.; shut down

GUADALUPE COUNTY

Grayburg Oil Co.'s No. 2 Wells, 5,730 ft. E line, 2,490 ft. S line of NE cor. of Wells tract in the James D. Baume Sur., 6 miles SW from Darst Creek. Waiting on drilling rig.
Brown Hill et al's No. 1 George Altzger, 1,300 ft. from SE line, 1,100 ft. from SW line, of 120-ac. tract in A. Mansola Sur. T. D. 1,160 ft.; drlg. in sandy shale.
Hadley et al's No. 1 Hartwig, 2,000 ft. S-N line, 930 ft. E-W line of survey, Wm. Hartung 656-ac. in the Richard Nixon Sur., 6 miles SW from Darst Creek. T. D. 2,023 ft.; drlg in shale.
Transcontinental Oil Co.'s No. 1 W. M. Dollie, 150 ft. from S line, 1,422 ft. from E line of 78-ac. tract in the E. Gotarie Sur., 5 miles SE from Seguin. T. D. 2,285 ft. in Edwards.
Tidal Oil Co.'s No. 1 J. Seiligman, 150 ft. from N and E lines of the J. Seiligman 40-ac. NW cor. of J. H. Williamson Sur., 15 miles S from Seguin. T. D. 2,511 ft.; swabbing 50 bbls. per day.

JACKSON COUNTY

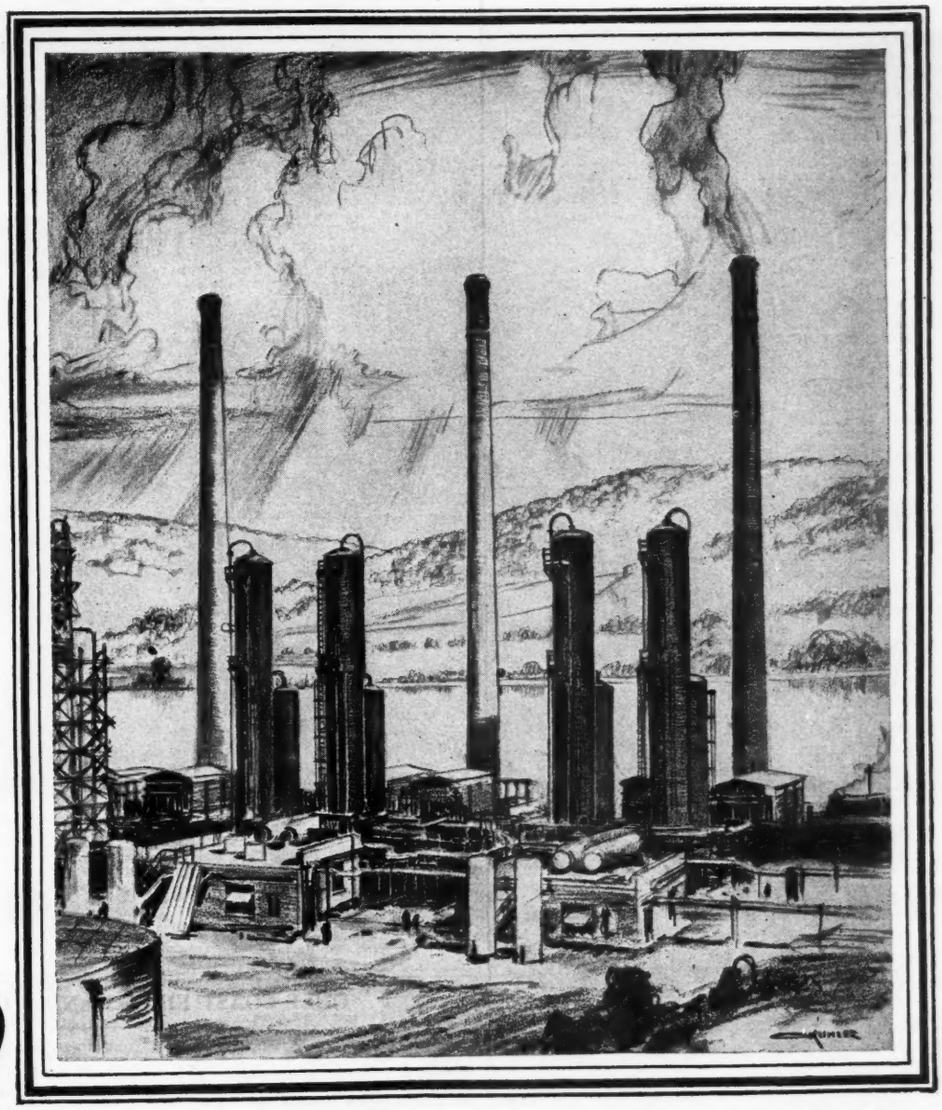
The Texas Company's No. 1 Mitchell, 1,750 ft. E, 880 ft. N of SW cor. Ewing Sur. T. D. 2,986 ft.; drlg. in sandy shale.

JIM WELLS COUNTY

E. W. Ogden's No. 1 G. Farris, M. Perez Sur. T. D. 2,615 ft.; shut down.

KARNES COUNTY

Hewitt et al's No. 1 H. N. Matula, 450 ft. from E and center of NW and SE lines of 125-ac. farm in the Victor Blanco Sur. T. D. 4,000 ft.; shut down.
H. M. Lightfoot et al's No. 1 Barnett in the Alex Hunter Sur., 6 miles N of Karnes City. T. D. 2,916 ft.; preparing to deepen from abandoned depth, was carried as J. G. Fisher et al.
J. F. Morrisey et al's No. 1 Ragsdale, 660 ft. SW of C of NE line of 170-ac. farm in the McCoull Sur. T. D. 200 ft.; preparing to set surface casing.



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Mundine Investment Co.'s No. 1 A. D. Wilburn, C of 143 ac. in H. K. Hardy Sur., 3 miles SE from Dunge ..... T. D. 300 ft.; set 10-in. csg.; waiting on casing.
Hewitt et al's No. 1 W. E. Porter ..... T. D. 3,650 ft.; shut down.

KENDALL COUNTY

Borgett et al's No. 1 Haag, W. Avery Sur. ..... T. D. 728 ft.; csg. parted at 325 ft.
A. S. Mowinkle's No. 1 Kaston, 150 ft. from N line, 150 ft. from E line of tract, Sur. No. 724, 9 miles due W of Kendalia ..... T. D. 270 ft.; drlg. in shale.
Sitten et al's No. 1 Garvin, C of NE of D. L. Richardson Sur. in the D. L. Richardson Sur., 1 mile NE from Kendalia ..... T. D. 425 ft.; drlg in shale.
Dickinson et al's No. 1 Edmondson, 150 ft. from S line, 350 ft. from W line of tract in the J. O. Blair No. 72 Sur., 1 mile NW from Kendalia ..... Moving on.
Seaboard Oil & Gas Co.'s No. 1 W. Asken, SW cor. of Sur. in the Miguel die Toro Sur., 3 miles N from Sisterdale ..... T. D. 1,090 ft.; waiting on 8-in. csg.; to shut off water.
Dixon Oil Co.'s No. 1 Ottmer Behr, W of H.T.&B.R.R. Sur., 3½ miles SE from Sisterdale ..... T. D. 1,500 ft.; shut down.
F. B. Sterling's No. 1 Willie Weiner, approx. 800 ft. each way out of SE cor. of the J. C. Tarry Sur., 8 miles W from Kendalia ..... T. D. 914 ft.; pumping.
F. B. Sterling's No. 1 McCracklin, 1,350 ft. from N line, 250 ft. from W line of the B. G. Owens Sur., 4 miles W from Kendalia ..... Shut down; moving in standard tools.

KERR COUNTY

Mashe & Tunstill's No. 1 Love Ranch, 1,000 ft. from W line of Sec. 1,594, 100 ft. S of S line of Sec. 1,597, in the G.C.S.D.&R.G.N.G. Sur. ..... Rigged up.

KLEBERG COUNTY

Bowen & Sarles' No. 1 Robert, H. Simmons in the A. Houston Sur. No. 611, Sec. 7, King Subd., 150 ft. out of NW cor. of SW ..... T. D. 1,500 ft.; drlg in sandy shale.

KINNEY COUNTY

Magnolia Petroleum Co.'s No. 1, SE cor. of Bladz Sur., near S.P.R.R., close to Blume test on Wardlow ranch, W part of county, 2½ miles from Blume .... T. D. 1,400 ft.; drlg. in shale.
A. Blume et al's No. 2 Herbst, 1,731 ft. W and S lines of Sur. in the Poindexter-Burns Sur. ..... T. D. 275 ft.; shut down.
Mardon Oil Co.'s No. 2 Jim Clamp, in the John Winter Sur. No. 346, near No. 1 ..... T. D. 1,400 ft.; shut down.

KIMBLE COUNTY

Lindley Bros.' No. 1 Anderson, Sec. 178, Mubenger Sur... T. D. 930 ft.; shut down.
C. L. Bryant et al's No. 1 Lambert, 7,700 ft. N and W lines of F. Lotta Sur. ..... T. D. 685 ft.; shut down.

LASALLE COUNTY

Salt Lake City Pet. Co.'s No. 1 Beckwith, Sur. 17, 150 ft. S line, 150 ft. E line ..... T. D. 2,900 ft.; shut down.

LIVE OAK COUNTY

Dougherty et al's No. 1 Jim Dougherty, 2,254 ft. SE of NW line, 750 ft. NE of SW line of M. Boren Sur. ..... T. D. 2,010 ft.; drlg.

MAVERICK COUNTY

Rycade Oil Corp.'s No. 6 Chittim, 1,445 ft. from S, 320 ft. from W of Sec. 116, Blk. 7, I.&G.N. Sur. ..... T. D. 2,636 ft.; shut down.
Rycade Oil Corp.'s No. 5 Chittim, 600 ft. W of No. 3 Chittim, 500 ft. E line, 225 ft. from S line of SE Sec. 115, Blk. 7, in the I.&G.N. Sur. ..... T. D. 3,875 ft.; drlg. in lime rock.
Rycade Oil Corp.'s No. 5 Sullivan, in C of Sec. 82, Blk. 7, in the I.&G.N. Sur. ..... T. D. 5,359 ft.; drlg. in gray lime.

MEDINA COUNTY

Pat Armstrong's No. 1 C. W. Butts, in George C. Hanson Sur. ..... T. D. 1,350 ft.; drlg. in limy shale.
Pearson Oil Co.'s No. 6 Medina Valley Inv. Co., 2,500 ft. S and E line of lease of Isom Palmer Sur. ..... Spudded.
R. M. Perkins' No. 1 R. J. Taylor, 270 ft. from W line, 1,200 ft. from S line of 40-ac. tract in the S. Castro No. 136, 3½ miles SW from Hondo ..... Spudded in.
Pan American Pet. Co.'s No. 1 Antoine Hart, in Harrison Sur. No. 799, 15 miles S from Hondo ..... T. D. 1,187 ft.; set csg. at 1,107 ft.; sand; shut down.
National Oil Co.'s No. 1 Howard, 1,750 ft. E of W line, 1,854 ft. N of S line of survey in the John George Sur. No. 9, 10 miles S of Dunlay ..... T. D. 300 ft.; shut down.
Catherine Ryan's No. 1 H. Haas, 300 ft. from S line, 300 ft. from E line of tract in the J. Burleson No. 64 Sur., 12 miles W from Noonan ..... T. D. 1,650 ft.; abandoned.
Sun Oil Co.'s No. 1 Edgar, 450 ft. from E line, 150 ft. from S line of 320-ac. tract in the J. Buell No. 362, 3 miles N from Noonan ..... T. D. 300 ft.; set 10-in. csg.
Sunflower Oil Co.'s No. 1 M. Modfield, 3,340 ft. from E line, 1,335 ft. S line of 640-ac. tract, Sur. 532, 10 miles S from Hondo ..... T. D. 800 ft.; took core from Anacacho.
Donaldson Oil & Dev. Co.'s No. 2 Adams Co., James Hillenmeyer No. 25 Sur., 500 ft. to E line of Sur., 150 ft. to S line of N half of Sur. ..... T. D. 200 ft.; shut down.
Pat Armstrong's No. 1 Crawford, 1,389 ft. N line, 2,550 ft. E line of Sur., 478.6 miles W from Devine ..... T. D. 400 ft.; shut down.

SAN PATRICIO COUNTY

George B. Pickett's No. 1 Baldwin, 9,000 varas due E of Denton, 1,200 ft. S of the SE cor. of O'Neil Sur., Abstract 211 ..... T. D. 2,714 ft.; coring sand.
LaFeria Oil & Gas Co.'s No. 1 C. C. Smith, in J. C. White Sur., 690 ft. to N line, 350 ft. to E line ..... T. D. 3,050 ft.; shut down in sandy shale.

STARR COUNTY

I. V. Maclean's No. 1, Tract No. 5, 1,063-ac., Porcion 81, Juan Jose de la Garza in the Falcon grant ..... Location.
Smith & Adams' No. 1 Welch, Perdernal Sur. ..... T. D. 841 ft.; standing.

UVALDE COUNTY

Waldrop & Welch's No. 1 H. S. Benson, 2 miles NW of Uvalde ..... T. D. 1,360 ft.; shut down in lime rock.
Waldrop & Welch's No. 1 E. R. Edmonds, 1,750 ft. NW, 7,200 ft. W of Sec. 71, in the A. Gomez Sur., 8 miles S of Uvalde ..... T. D. 1,160 ft.; shut down.
Phantom Oil Co.'s No. 1 Claudt, Sec. 611 ..... T. D. 2,100 ft.; cementing 10-in. csg.

VICTORIA COUNTY

Lion Oil & Ref. Co.'s No. 1 J. A. McFadden, 2,577 ft. W, 514 ft. N from NE cor. of C. O. Edwards tract in M. J. Travies Sur. ..... T. D. 3,745 ft.; tested gas; showing for well; estimated 50,000,000 ft. gas; set 8¼-in. csg. at 3,742 ft.

WILLACY COUNTY

Weimer-Richardson's No. 1 Elmore ..... T. D. 1,860 ft.; shut down in gumbo.

WILSON COUNTY

Transcontinental Oil Co.'s No. 1 J. H. Bain, 150 ft. out of E cor. of tract, 1,850 varas from SW line and 75 varas from SE line of Noel F. Roberts Sur. ..... Spudded in.

WILLIAMSON COUNTY

Harlem et al's No. 1 H. H. Stiles, in the J. Bevil Sur., 220 ft. N and 330 ft. E of Sur. ..... Rigging up.
Fred Beatty's No. 1 H. Bland, 450 ft. from N line, 1,000 ft. from E line of tract, in the P. Coursey Sur., 1 mile E from Taylor ..... T. D. 1,176 ft.; shut down.
Fred Beatty's No. 1 J. B. Pumphrey, 1,328 ft. from S and E lines of Mrs. J. B. Pumphrey 158-ac. tract in the W. Cartwright Sur. ..... Rigging up.
M. Bartlett et al's No. 1 R. E. Thomas, 450 ft. from N line, 170 ft. from E line of S 50 of 100-ac. of farm in the H. Owen Sur. ..... Spudded in.
E. L. Chapman's No. 2 J. H. McConnell, 1,070 ft. from W line, 150 ft. from N line of tract in the S. Miller Sur. ..... Rigging up.
Elliot et al's No. 1 S. W. Jones, 600 ft. from W line, 400 ft. from S line of Alvert Nantz Sur. ..... Spudded in.
E. L. Chapman's No. 2 Fuchs, 150 ft. SW line, 750 ft. NW line of 93-ac. tract in the S. Miller Sur. ..... T. D. 1,000 ft.; drlg.
G. B. Peterman's No. 2 J. C. Abbott, 450 ft. from S and W line of Abbott 100-ac. tract, in the Simon Miller Sur., SE from Thrall ..... Rigging up.
Bridwell et al's No. 1 H. L. Martin, 1,150 ft. from N line, 150 ft. from W line of Simon Miller Sur. ..... Rigging up.
McNeil et al's No. 1 R. L. Abbott, 300 ft. NW line, 150 ft. NE line of Abbott 15-ac. tract, in the S. Miller Sur. ..... Spudded in.
Powell & Kykendall's No. 1 Christian Mager, in the W. Byerly Sur., 150 ft. N and 450 ft. E of farms of 150 acres ..... Old well deepening.
E. L. Chapman's No. 1 Barney Lawrence, 330 ft. from SE and SW lines of farm, in the Simon Miller Sur... Rigging up.
E. L. Chapman's No. 1 J. F. McConnell, 150 ft. from S and W of 100-ac. farm in the Simon Miller Sur. .. T. D. 1,922 ft.; Serpentine; light show oil 1,900 ft.
E. R. Ertell's No. 1 J. F. McConnell, 295 ft. from N line, 180 ft. from W of S 50-ac. of 100-ac. farm, in the Simon Miller Sur. ..... T. D. 2,136 ft.; small oil show 1,100 ft.
Keeshan et al's No. 1 R. L. Abbott, 170 ft. from N line, 772 ft. from W line of farm, in the Simon Miller Sur. ..... Derrick up.
E. W. Marts et al's No. 1 R. L. Abbott ..... Spudded in.
Taylor Temple Oil Co.'s No. 1 F. M. Cain, 876 ft. from E line, 150 ft. from N line of C. D. Johnson 109-ac. tract in the S. Miller Sur. ..... Rigging up rotary.
J. A. Thompson's No. 1 T. H. Martin, 150 ft. N and E lines of 20-ac. tract in the S. Miller Sur. ..... Location.
Westheimer & Daube's No. 1 R. L. Abbott, 150 ft. from N and W lines of 57-ac. tract in the S. Miller Sur... Location.
R. R. Wilder's No. 1 H. T. Martin, 158 ft. from N and E lines of H. T. Martin 76.25-ac. tract in the S. Miller Sur. ..... Rigging up rotary.
L. W. Wilson et al's No. 1 W. L. Lawrence, 150 ft. from W line and C N and S of 35-ac. tract or 1,400 ft. from SW line, 1,450 ft. SW line of H. Owens Sur. ... Spudded in.

ZAPATA COUNTY

B. F. Nixon's No. 1 A. Gutierrez, 170 ft. S line, 332 ft. E line, Lot 5, Blk. 8, Partition 10, Borrego grant .... Rigging up.
National Oil Co.'s No. 1 D. B. Adams ..... T. D. 1,000 ft.; drlg.

ZAVALA COUNTY

Krebs & Davis' No. 1 Weatheresby, E center of NW of Sec. 44, Blk. A, Adams, Beaty & Mouton Sur., 4 mi. E from Loma Vista ..... T. D. 1,160 ft.; drlg. in shale.
Weigand Bros.' No. 1 W. L. Gates, Hooper & Wade Sur. No. 13, 1,320 ft. S of N line, 1,220 ft. W of NE cor. Sur., about 16 miles S of Bateville ..... T. D. 2,240 ft.; shut down.
Ike Pryor's No. 1 Pryor, 400 ft. N line, 400 ft. from E line George Vose No. 405 Sur., 4 miles NE from La Pryor ..... T. D. 1,100 ft.; estimated 250,000,000 ft. gas; shut in; drop from reports until work resumed.
Thomas T. Taylor's No. 1 Townsite of Delmonte, 600 ft. SE of city water works ..... Location.
Jack Baldwin's No. 1 J. R. Price, in the W. E. Erskin Sur. No. 34 ..... T. D. 1,180 ft.; drlg. sandy shale.
Southern Crude Oil Purch. Co.'s No. 1 Nat M. Washer, in the T. Pinckhardt Sur. No. 180, 1 deg. E, 6,795 ft. from SE cor. ..... T. D. 4,661 ft.; drlg. in hard lime.
Texas Fuel & Gas Co.'s No. 5 West, 150 ft. from SE line, 4,700 ft. from SW of Marguett Singer Sur., 20 miles SW from Batesville ..... T. D. 1,500 ft.; shut down.
F. Baldwin's No. 1 Washer, 300 ft. S and E of Sec. 34, in the W. E. Erskin Sur. ..... T. D. 2,185 ft.; drlg. in hard shale.

GULF COAST FIELDS AND WILDCATS

(Continued from Page 50)

Humble & Valley's No. 7 Payne ..... Derrick.
Humble & Valley's No. 8 Payne ..... Derrick.
Humble & Valley's No. 9 Payne ..... Drlg. shale 2,357 ft.
Humble & Valley's No. 2 Sherrod ..... Derrick.
Humble & Valley's No. 4 Sherrill ..... Comp. pumping 360 bbls. 3,575 ft.
Humble & Valley's No. 7 Thompson ..... Drlg. hard sand 3,323 ft.
Humble & Valley's No. 7 Urban ..... Shut down 1,165 ft.
Humble & Valley's No. 8-A Walton ..... Drlg. hard sand 3,474 ft.
Humble & Valley's No. 6 Woodley ..... Derrick.
Humble & Valley's No. 7 Woodley ..... Derrick.
Humble & Valley's No. 8 Woodley ..... Derrick.
Humble & Valley's No. 9 Woodley ..... Location.

DEWALT—FORT BEND COUNTY

Humble Oil & Ref. Co.'s No. 10 Sugarland ..... Drlg. sticky shale 1,504 ft.
Humble Oil & Ref. Co.'s No. 10 Nelson ..... Drlg. sandy shale 3,464 ft.
Humble Oil & Refining Co.'s No. 15 Brazos ..... Location.

HUMBLE—HARRIS COUNTY

Benedum & Trees' No. 1 Foley, south ..... No report.
Dunbar & Deering's No. 1 Bennett, northwest ..... Rig.
Houtex Oil Co.'s No. 1 Hirsch, northwest ..... Drlg.
Humble Oil & Ref. Co.'s No. 12 Williams ..... Comp. flowing 250 bbls. 5,186 ft.
Rio Bravo Oil Co.'s No. 1 fee, west ..... Total depth 4,293 ft.; pulling screen.
Rio Bravo Oil Co.'s No. 2 fee, west ..... Rig.
Sun Oil Co.'s No. 6 Bender, west ..... No report.
Sun Oil Co.'s No. 7 Bender, west ..... No report.
Sun Oil Co.'s No. 8 Bender, west ..... Spudded.
Sun Oil Co.'s No. 48 River, north ..... No report.
The Texas Company's No. 24 House (workover) ..... Set screen 3,541 ft.
The Texas Company's No. 22 Wheeler & Pickins, northeast ..... Heaving shale 5,068 ft.
The Texas Company's No. 1 Texas Pipe Line Co., west... Total depth 4,089 ft.; set 156 ft. screen 3,998 ft.; comp. flowing 100 bbls. on ½-in. choke.

BLUE RIDGE—FORT BEND COUNTY

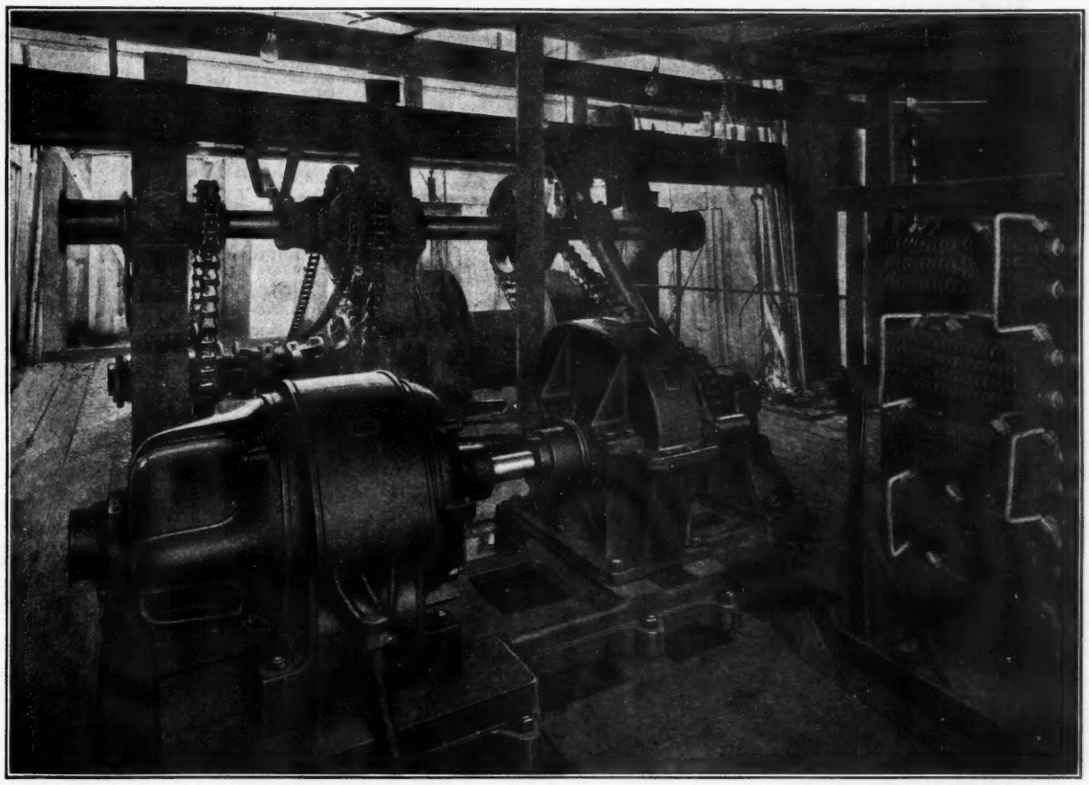
Joe Collins' No. 1 R. C. Duff ..... Drlg. gumbo 400 ft.
Gulf Production Co.'s No. 18 Luscher, south ..... Derrick.
Navarro Oil Co.'s No. 9-A Robinson, west ..... Drlg. hard sand and shale 4,660 ft.
Sinclair Oil & Gas Co.'s No. 1 Simms-Blakely ..... Drlg. sandy shale showing oil 5,756 ft.

PIERCE JUNCTION—HARRIS COUNTY

Gulf Production Co.'s No. 32 Taylor ..... Cemented csg. 4,298 ft.
Navarro Oil Co. and Texas Exploration Co.'s No. 19 Dooley, east ..... Drlg. gumbo 2,442 ft.
Rio Bravo Oil Co.'s No. 12-A Settegast (workover) ..... Drlg. sand and shale 5,082 ft.
Rio Bravo Oil Co.'s No. 18-A Settegast, west ..... Drlg. sand and shale 4,184 ft.
Rio Bravo Oil Co.'s No. 19-A Settegast ..... Location.

LIBERTY—LIBERTY COUNTY

Empire Gas & Fuel Co.'s No. 12 O'Brien ..... Oil sand 3,512-38 ft.; cem. 8⅝-in. casing 3,502 ft.



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ALLIS-CHALMERS

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The Texas Company's No. 7 Green, northwest ..... Drlg. gumbo 2,216 ft.

HULL—LIBERTY COUNTY

The Texas Company's No. 8 Hannah-Vacuum ..... Reset screen 5,117 ft.; swabbing.
The Texas Company's No. 2 Barrow ..... Drlg. sand and boulders 1,149 ft.

BIG CREEK—FORT BEND COUNTY

Gulf Production Co.'s No. 58 Davis ..... Oil sand 4,220-46 ft.; cemented 6⅝-in. csg. 4,208 ft.

LOST LAKE—CHAMBERS COUNTY

Pure Oil Co.'s No. 11 Mayes ..... Standing cemented 2,704 ft.
Pure Oil Co.'s No. 11-A Mayes ..... Location.
Pure Oil Co.'s No. 5 Lost Lake ..... Location.
Rycade Oil Corp.'s No. 15 Wisdom (workover) ..... Drlg. tough blue shale 3,961 ft.

NASH—BRAZORIA COUNTY

Rycade Oil Corp.'s No. 15 Wisdom ..... Drlg. shale and shell 4,257 ft.
Rycade Oil Corp.'s No. 27 Wisdom ..... Rig.

SARATOGA—HARDIN COUNTY

Rio Bravo Oil Co.'s No. 84 Cotton ..... Sand and shale 1,037 ft.; set csg.

GOOSE CREEK—HARRIS COUNTY

Humble Oil & Ref. Co.'s No. 77 Simms-Smith ..... Standing 6,642 ft.
A. F. Bradbury's No. 5 Gillette ..... No report.

SPINDLETOP—JEFFERSON COUNTY

Yount Lee Oil Co.'s No. 28 McFaddin (workover) ..... Pulling screen to deepen 4,148 ft.
Yount Lee Oil Co.'s No. 51 McFaddin (workover) ..... No report.
Yount Lee Oil Co.'s No. 96 McFaddin (workover) ..... Pulling screen to deepen 2,342 ft.
Yount Lee Oil Co.'s No. 132 McFaddin ..... Drlg. shale 5,336 ft.
Yount Lee Oil Co.'s No. 133 McFaddin ..... Drlg. shale 5,021 ft.
Yount Lee Oil Co.'s No. 134 McFaddin ..... Cemented csg. 4,709 ft.
Yount Lee Oil Co.'s No. 135 McFaddin ..... Drlg. shale and lime 4,681 ft.
Yount Lee Oil Co.'s No. 136 McFaddin ..... Drlg. 2,410 ft.
Yount Lee Oil Co.'s No. 1 Greer & Hall ..... Drlg. 2,306 ft.
Yount Lee Oil Co.'s No. 32 Gladys City ..... Comp. pumping 68 bbls. oil 3,801 ft.
Yount Lee Oil Co.'s No. 45 Gladys City (workover) ..... Abandoned 2,961 ft.
Yount Lee Oil Co.'s No. 15 fee (workover) ..... Abandoned 3,146 ft.

NORTH DAYTON—LIBERTY COUNTY

Victor Oil Co.'s (V. H. Borsodi) No. 1 Gulf ..... Swabbed salt water 5,134 ft.
Victor Oil Co.'s (V. H. Borsodi) No. 2 Gulf ..... Swabbed salt water 4,768 ft.; side-tracking 4,300 ft.
Houtex Oil Co.'s No. 1 Simmons & Brown ..... Tested salt water 5,074 ft.; side-tracking 4,600 ft.
Harrison Oil Co.'s No. 5 Quintette ..... Location.
The Texas Company's No. 1 Paraffine fee ..... Set screen 5,322 ft.

HIGH ISLAND—GALVESTON COUNTY

Gulf Production Co.'s No. 10 Smith ..... Drlg. sandy shale 3,257 ft.
Marrs McLean's No. 18 Cade ..... Drlg. hard sandy lime 3,227 ft.

ORCHARD—FORT BEND COUNTY

Gulf Production Co.'s No. 22 Moore ..... Set 17 ft. of screen 4,118 ft.; comp. flowing 1,500 bbls. daily.
Gulf Production Co.'s No. 21 Moore ..... Set 1 jt. screen 3,995 ft.; comp. flowing 50 bbls. daily.
Gulf Production Co.'s No. 23 Moore ..... Derrick.
Gulf Production Co.'s No. 24 Moore ..... Derrick.

ESPERSON—LIBERTY COUNTY

Cranfill-Reynolds Oil Co.'s No. 5 Esperson ..... Drlg. sandy shale 3,762 ft.
Cranfill-Reynolds Oil Co.'s No. 12 Esperson ..... Drlg. sandy shale 1,112 ft.
Cranfill-Reynolds Oil Co.'s No. 13 Esperson ..... Drlg. gumbo and boulders 1,022 ft.
Cranfill-Reynolds Oil Co.'s No. 4 Davis ..... Drlg. sticky shale 2,289 ft.
Cranfill-Reynolds Oil Co.'s No. 1 Vajdak (workover) ..... Set liner to test 7,069 ft.
Republic Production Co.'s No. 1 Moores Bluff ..... Drlg. 3,000 ft.
Yount Lee Oil Co.'s No. 3 Moores Bluff ..... Drlg. shale and lime 5,725 ft.

HANKAMER—LIBERTY COUNTY

Gulf Production Co.'s No. 6 Boyt ..... Sandy shale showing oil 3,512 ft.; cemented csg.
Gulf Production Co.'s No. 1 Lee ..... Drlg. gumbo 4,442 ft.
Gulf Production Co.'s No. 1 Ezzell ..... Location.

BOLING—WHARTON COUNTY

C. S. Thomas' No. 1 Volney ..... Rig.
C. S. Thomas' No. 1 Taylor ..... Rig.

REFUGIO—REFUGIO COUNTY

Houston Oil Co.'s No. 1 Kay ..... Testing oil sand 5,475-78 ft.
Houston Oil Co.'s No. 1 O'Brien, Block 5 ..... Cementing 9⅝-in. csg. 4,443 ft.
Houston Oil Co.'s No. 1 Strauch, Block 20 ..... Drlg. shale and lime 3,716 ft.
Houston Oil Co.'s No. 1 City, Block 59 ..... Location.
Houston Oil Co.'s No. 1 O'Connor ..... Cem. 13⅜-in. casing 512 ft.
Houston Oil Co.'s No. 1 West ..... Drlg. lime 3,856 ft.
Houston Oil Co.'s No. 1 Rose Lambert ..... Cemented 9⅝-in. csg. 4,474 ft.
Houston Oil Co.'s No. 2 Rose Lambert ..... Drlg. gumbo 643 ft.
Houston Oil Co.'s No. 1-A Fannie Heard ..... Drlg. rock 4,168 ft.
Houston Oil Co.'s No. 1 Sitterie ..... Oil sand 3,662-88; cem. 8¼-in. casing 3,680 ft.
Houston Oil Co.'s No. 18 P. H. Rooke ..... Drlg. sand 3,658 ft.
Houston Oil Co.'s No. 7 Fannie Heard (workover) ..... Rig up to deepen.
Independent Oil & Gas Co.'s No. 2-C J. F. B. Heard ..... Making drill stem test 3,680-82 ft.
Independent Oil & Gas Co.'s No. 1 Mitchell ..... Derrick.
Independent Oil & Gas Co.'s No. 1 Mercy Academy ..... Pulling screen to deepen 5,454 ft.
Independent Oil & Gas Co.'s No. 1 Helen Reilly ..... Comp. flowing 270 bbls. fluid, 25% water, 1,500 lbs. pressure, ¼-in. choke, 5,656-65 ft.
Independent Oil & Gas Co.'s No. 1 M. F. Lambert ..... Drlg. shale 6,058 ft.
Independent Oil & Gas Co.'s No. 1 Tiny Hyser ..... Oil sand 3,665-68 ft.; cementing csg.
Edwin M. Jones' No. 1-A Mitchell ..... Location.
Edwin M. Jones' No. 2-A J. F. B. Heard ..... Oil sand 3,646-49 ft.; cem. 6⅝-in. casing 3,646 ft.
Edwin M. Jones' No. 3-A J. F. B. Heard ..... Drlg. gumbo 520 ft.
Edwin M. Jones' No. 4-A J. F. B. Heard ..... Spudded.
Larco Co.'s No. 5 Strauch ..... Derrick.
Luling Oil & Gas Co.'s No. 1 J. W. Kay ..... Making drill stem test 3,732-40 ft.
Mission Drilling Co.'s No. 1 Holmes Heard ..... Cemented 12½-in. csg. in gumbo 627 ft.
Mission Drilling Co.'s No. 1 Joe Shay, Block 6 ..... Location.
Mission Drilling Co.'s No. 1 O'Brien ..... Drlg. hard sand and lime 4,601 ft.
Moody-Seagraves Prod. Co.'s No. 2 O'Brien ..... Oil sand 5,451 ft.; cemented csg.
Moody-Seagraves Prod. Co.'s No. 3 City ..... Rig.
Moody-Seagraves Prod. Co.'s No. 1-A O'Brien ..... Derrick.
Moody-Seagraves Producing Co.'s No. 3 O'Brien ..... Location.
Moody-Seagraves Producing Co.'s No. 1 Strauch, Block 64 ..... Location.
Morgan Oil Corp.'s No. 1 St. John ..... Drlg. sand 5,730 ft.
Morgan Oil Corp.'s No. 1 O'Connor ..... Drlg. shale and lime 4,932 ft.
Morgan Oil Corp.'s No. 2 O'Connor ..... Drlg. hard sand 3,673 ft.
Morgan Oil Corp.'s No. 3 O'Connor ..... Drlg. shale and lime 4,733 ft.
Morgan Oil Corp.'s No. 4 O'Connor ..... Drlg. sand and shale 3,375 ft.
Pearson Properties, Inc.'s No. 2 Ryals ..... Drlg. gumbo and lime 5,300 ft.
Pearson Properties, Inc.'s No. 1 Tobe Wood ..... Drlg. broken sand and lime 1,165 ft.
Ed Price's No. 1 Mission River ..... Shut down.
Rutherford-Traylor Oil Co.'s No. 2 Cable ..... Oil sand 3,682-3,700 ft.; cemented 6⅝-in. csg. 3,682 ft.
Saxet Oil Co.'s No. 3 Cable ..... Total depth 3,702 ft.; set screen.
Sun Oil Co.'s No. 5 Buckley ..... Derrick.
Union Producing Co.'s No. 2 Lambert ..... Pulling tubing 5,908 ft.
Union Producing Co.'s No. 3 Lambert ..... Drlg. hard sandy shale 5,843 ft.
Union Producing Co.'s No. 4 Morgan-Vance ..... Drlg. shale 5,336 ft.
Union Producing Co.'s No. 4 Morgan-Shelly ..... Cemented casing 2,978 ft.
Union Producing Co.'s No. 5 O'Brien ..... Cemented surface casing.
Union Producing Co.'s No. 6 O'Brien ..... Location.
Union Producing Co.'s No. 3 Powers ..... Comp. high-pressure gas well spraying gasoline 5,468-72 ft.
Union Producing Co.'s No. 4 Powers ..... T.D. 5,483 ft.; cemented csg. 5,472 ft.
Union Producing Co.'s No. 5 Powers ..... Location.
Union Producing Co.'s No. 2 Shelton ..... Drlg. hard sand 5,683 ft.
Union Producing Co.'s No. 3 Mitchell ..... Comp. high-pressure gas well spraying some oil 5,465-68 ft.
Union Producing Co.'s No. 4 Mitchell ..... Derrick.
Union Producing Co.'s No. 5 Mitchell ..... Drlg. sand rock 5,216 ft.
Union Producing Co.'s No. 3 J. F. B. Heard ..... Cemented surface csg. 466 ft.

SOUTH LOUISIANA FIELDS

LOCKPORT—CALCASIEU PARISH

Vacuum Oil Co. and Gulf Ref. Co.'s No. 26 Miller ..... Pulling screen to deepen 3,790 ft.
Vacuum Oil Co. and Gulf Ref. Co.'s No. 27 Miller ..... Comp. flowing 300 bbls. oil 4,1[illegible] ft.
Vacuum Oil Co. and Gulf Ref. Co.'s No. 28 Miller ..... Rig.
Vacuum Oil Co. and Gulf Ref. Co.'s No. 29 Miller ..... Location.
Vacuum Oil Co. and Gulf Ref. Co.'s No. 5 Freiberg & Wolf ..... Drlg. shale 3,135 ft.
Vacuum Oil Co. and Gulf Prod. Co.'s No. 7 Farquahar ..... Rig.

HACKBERRY—CAMERON PARISH

Calcasieu Oil Co.'s No. 5 Caldwell ..... No report.
Calcasieu Oil Co.'s No. 19 Watkins ..... Location.
Calcasieu Oil Co.'s No. 2 Verdine ..... Location.
Gulf Refining Co.'s No. 1 Erwin ..... Building derrick.
Sun Oil Co.'s No. 1 J. H. Duhon ..... Rigging to pump.
The Texas Company's No. 7 State ..... Building derrick.
Yount Lee Oil Co.'s No. 10 School ..... Abandoned 3,306 ft.
Yount Lee Oil Co.'s No. 1 Duhon ..... Drlg. sandy shale 3,300 ft.
Yount Lee Oil Co.'s No. 1 Portia ..... Drlg. shale and lime 3,112 ft.
Yount Lee Oil Co.'s No. 3 R. Vincent ..... Drlg. shale and lime 3,100 ft.
Yount Lee Oil Co.'s No. 4 Lacey ..... Drlg. gumbo 1,600 ft.

JENNINGS—ACADIA PARISH

The Texas Company's No. 5 Rayne heirs, King tract ..... Fishing 8,045 ft.
Yount Lee Oil Co.'s No. 8 Houssiere-Latrielle, Section 47-9s-2w ..... Coring 7,304 ft.
Yount Lee Oil Co.'s No. 7 Crowley ..... Location.

VINTON—CALCASIEU PARISH

Gulf Refining Co.'s No. 50 Star-Vincent ..... Heaving shale 3,870 ft.
Gulf Refining Co.'s No. 2 Gardner ..... Drlg. 2,616 ft.

BAYOU BOUILLON—ST. MARTIN PARISH

Rycade Oil Corp.'s No. 5 Atchafalaya fee (workover) ..... Put on pump; sanded up 4,341 ft.
Rycade Oil Corp.'s No. 1 Woodyard Lake ..... Drlg. sandy shale 2,962 ft.
Rycade Oil Corp.'s No. 10 Bouillon fee ..... Drlg. sand 253 ft.

STARKS—CALCASIEU PARISH

Adams Oil Co.'s No. 1 Roderick ..... No report.
J. O. Davis' No. 1 Industrial ..... Standing 3,775 ft.
Gulf Refining Co.'s No. 23 Lutcher-Moore ..... Drlg. 451 ft.

SWEET LAKE—CAMERON PARISH

Magnolia Petroleum Co.'s No. 1 Sweet Lake ..... Location.
Pure Oil Co.'s No. 9 Yount Lee ..... Drlg. hard sand 6,294 ft.

PORT BARRE—ST. LANDRY PARISH

Gulf Refining Co.'s No. 2-A Hoskins ..... Drlg. 3,396 ft.
Gulf Refining Co.'s No. 3 Hoskins ..... Location.
Gulf Refining Co.'s No. 2 Lahaye ..... Drlg. sandy shale 3,600 ft.
Alex Rice, trustee's No. 1 Futral ..... Drlg. 4,284 ft.
Alex Rice, trustee's No. 2 Futral ..... Location.
Alex Rice, trustee's No. 3 Futral ..... Location.
Pure Oil Co.'s No. 1 Perkins ..... Rig.

MISCELLANEOUS WILDCATS

TEXAS

AUSTIN COUNTY

Black Oil Co.'s No. 1 Lancashire, near Sealey ..... Drlg. hard sand and shale 4,000 ft.
O'Hara et al's No. 1 Batla, near Raccoon City ..... Shut down 4,000 ft.

BRAZORIA COUNTY

The Texas Company's No. 1 Ewin, Harvey Little Sur. ..... Total depth 5,511 ft.; cemented 9⅝-in. casing 4,755 ft.
Mills Bennett Production Co.'s No. 1 Random, Allen ..... Total depth 5,363 ft. in shale; coring.
Faust et al's No. 5 Faust ..... Sandy shale 4,083 ft.; cem. 6⅝-in. casing.
Layne et al's No. 6 Wisdom, Damon Mound ..... Drlg. rock 2,156 ft.
Rucks & Patterson's No. 1 Hunter, southwest of Hoskins ..... Shut down 1,185 ft.
Rycade Oil Corp.'s No. 1 Rapid City, Henry Austin Sur. ..... Reaming 5,012 ft.
Shell Petroleum Corp.'s No. 1 Blakely-Winston, Danbury ..... Plugged to 1,579 ft.; waiting on cement.
Shell Petroleum Corp.'s No. 2 Blakely Winston, Danbury ..... Coring sandy shale 1,611 ft.
Shell Petroleum Corp.'s No. 2 Proebste, Clemens Rock ..... Losing returns 615 ft.
Steel & Strickland's No. 1 Lockridge ..... Spudded and shut down.
United Oil Syndicate's No. 1 Moores, Francis Moore Sur. ..... Drlg. shale and lime 919 ft.

CHAMBERS COUNTY

Chicago Oil Corp.'s No. 1 Lawrence ..... Shut down 3,810 ft.
Shell Petroleum Corp.'s No. 1 Herff, Moss Bluff ..... Coring sandy shale and lime 5,6[illegible] ft.
Pure Oil Co.'s No. 1 Kirby, Charles Tilton Survey ..... Drlg. sticky shale 4,623 ft.
Pure Oil Co.'s No. 1 J.E.K. Ranch, Oyster Bayou ..... Drlg. sticky shale and gumb[illegible] 2,381 ft.
Superior Oil Corp.'s No. 1 Jackson ..... Shut down 3,504 ft.

COLORADO COUNTY

Gulf, Humble and Penn's No. 1 Wilson, John McCroskey Sur. ..... Rig.

GRIMES COUNTY

Cranfill-Reynolds Oil Co.'s No. 1 Stoneham, Navasota ..... Spudded.
John Deering's No. 1 Rossi, B.B.B.&C. Sur. ..... Drlg. sand and shale 2,986 ft.

HARDIN COUNTY

D. O. Speights' No. 1 fee, near Batson ..... No report.

HARRIS COUNTY

Baldwin and associates' No. 1 Kitzman, Cypress ..... Shut down 4,247 ft.
Cranfill-Reynolds Oil Co.'s No. 1 Rorick, J. Ogburn Sur. ..... Drlg. sticky shale 3,820 ft.
Humble Oil & Ref. Co.'s No. 7 Warren, Hockley ..... Drlg. shale 6,124 ft.
Humble Oil & Ref. Co.'s No. 1 Sladous, Mykawa ..... Drlg. shale 5,603 ft.
Humble Oil & Ref. Co.'s No. 2 Minnetex ..... Standing 1,216 ft.
Sloan Prospecting Co.'s No. 1 Davis, Cedar Bay ..... Drlg. shale and lime 3,599 ft.
Strang Oil Co.'s No. 1 Good, Deer Park ..... Drlg. rock 4,190 ft.
Martin, Drake & Jones' No. 1 Haney ..... Drlg. shale 5,700 ft.

JACKSON COUNTY

The Texas Company's No. 1 C. A. Mitchell, G. Ewing Sur. ..... Drlg. shale 3,610 ft.

JEFFERSON COUNTY

Bayou Oil Co.'s No. 1 Hooks-Bordage, W. C. Dyches Sur. ..... T.D. 5,510 ft.; reaming 5,400 ft.
Deep Test Oil Co.'s No. 1 McFaddin, Chaisson Sur. ..... No report.
Gulf Production Co.'s No. 5 Burrell, Fannett ..... Total depth 5,410 ft.; sidetracking
Gulf Production Co.'s No. 2-A Junker, Fannett ..... Rig.
The Texas Company's No. 1 Fitzhugh, Big Hill ..... Total depth 5,863 ft.; sidetracking 5,770 ft.
The Texas Company's No. 3 Pipkin, Big Hill ..... Rig.
Westbury Oil Co.'s No. 1 West, Choate Sur. ..... Shut down 3,490 ft.

LIBERTY COUNTY

Gulf Production Co.'s No. 1 McFaddin, Moss Bluff ..... Drlg. sand and shale 5,189 ft.
Humble Oil & Ref. Co.'s No. 1 Sabine Tram, Devers ..... Resumed drlg. 2,222 ft.
Tucker et al's No. 1 Bell, Devers ..... Derrick.

MATAGORDA COUNTY

Cockburn et al's No. 1 Hawkins, Shepherds Mott ..... Drlg. sandy shale 5,766 ft.
Watts Oil Co.'s No. 1 Titus, Wheelright Sur. ..... Drlg. gumbo 100 ft.

MONTGOMERY COUNTY

Kelley-Kaker's No. 2 Guerges ..... Shut down 1,915 ft.

ORANGE COUNTY

Gulf Production Co.'s No. 1 W. H. Starks, Port Neches ..... Drlg. shale 3,446 ft.
The Texas Company's No. 2 Kuhn, Port Neches ..... Reaming 3,420 ft.
The Texas Company's No. 2 Stark, Port Neches ..... Sand and shale showing oil and gas 4,124-44 ft.; cemented 6⅝-in. csg. 4,103 ft.

WALLER COUNTY

Humble Oil & Refining Co.'s No. 1 J. N. Taub, B.B.B.& C. Sur. ..... Location.
Kirby Petroleum Co.'s No. 2 Davis, San Felipe ..... Drlg. sticky shale 4,260 ft.
W. P. Morris' No. 1 Chapman, Donoho Sur. ..... Shut down 2,075 ft.

WASHINGTON COUNTY

W. Birdwell's No. 1 Schram, James Walker Sur. ..... Shut down 2,110 ft.
Clifton et al's No. 1 Pruiss, E. Alcorn Sur. ..... Drlg. shale 265 ft.
Mid-Kansas Oil & Gas Co.'s No. 1 Johnke, A. Miller Sur. ..... Drlg. shale 3,415 ft.
Mid-Kansas Oil & Gas Co.'s No. 1 Cuscamp, B. F. Sanders Sur. ..... Rig.
Sun Oil Co.'s No. 9 Grote, Clay Creek ..... Drlg. sand and shale 2,553 ft.
Sun Oil Co.'s No. 4 Clay, Clay Creek ..... Drlg. rock 2,084 ft.

Sun Oil Co.'s No. 5 Hunt, Clay Creek ..... Location.
Sun Oil Co.'s No. 5 Janner, Clay Creek ..... Location.

SOUTH LOUISIANA
ACADIA PARISH

Calcasieu Oil Co.'s No. 1 Hays, Sec. 10-8s-1w ..... Standing 6,629 ft.
Charles P. Siess' No. 1 Lyons, Sec. 4-10s-1e ..... Location.

CALCASIEU PARISH

Wilfred Lahay's No. 2 James ..... Standing 3,775 ft.

CAMERON PARISH

Shell Petroleum Corp.'s No. 15 Watkins, Black Bayou.... Location.
Vacuum Oil Co.'s No. 1 Cameron Meadows, Sec. 21-14s-13w ..... Pulling screen to deepen 3,800 ft.

IBERIA PARISH

The Texas Company's No. 5 Vermillion Bay ..... Building derrick.

IBERVILLE PARISH

Standard Oil Co.'s No. 5 Schwing, Bayou Blue ..... Location.
Standard Oil Co.'s No. 5 Wilbert, Bayou Blue ..... Drlg. 160 ft.
Standard O.l Co.'s No. 6 Wilbert, Bayou Blue ..... Tested salt water 2,065 ft.
Standard Oil Co.'s No. 1 Case, Bayou Des Glaise ..... Drill stem stuck 3,168 ft.
Standard Oil Co.'s No. 2 Case, Bayou Des Glaise ..... Location.

JEFFERSON PARISH

Humble Oil & Refining Co.'s No. 1 Delaware, Sec. 2-16s-23e ..... Rig.

JEFFERSON DAVIS PARISH

Shell Petroleum Corp.'s No. 1 Heyd, Iowa ..... Derrick.
M. L. Vincent's No. 1 Richards, Sec. 22-7s-3w ..... Derrick.
Yount Lee Oil Co.'s No. 1 Courtney, Welsh ..... No report.
Yount Lee Oil Co.'s No. 1 Abbott, Welsh ..... No report.

LAFAYETTE PARISH

Pure Oil Co.'s No. 1 Marmetin, Carenero ..... Rig.

LA FOURCHE PARISH

The Texas Company's No. 1 Leesville ..... Drlg. hard sand and lime 5,001 ft.

PLAQUEMINE PARISH

Humble Oil & Refining Co.'s No. 3 Cockrell, Lake Grand Ecaille ..... Location.
Humble Oil & Ref. Co.'s No. 1 Lake Washington, Lake Grand Ecaille ..... No report; total depth 5,166 ft.; cemented 7-in. csg. 5,137 ft.
Humble Oil & Refining Co.'s No. 2 Cockrell-Moran, Lake Grand Ecaille ..... Drlg. plug.
The Texas Company's No. 4 State, Garden Island Bay ... Junked and abandoned 920 ft.

ST. LANDRY PARISH

Herbert-Baker Oil Co.'s No. 1 Fisher, Sec. 10-3S-4e ..... No report.

ST. MARTIN PARISH

The Texas Company's No. 3 St. Martin, Hager ..... Drlg. 1,001 ft.

ST. MARY PARISH

Louisiana Land & Exploration Co.'s No. 1 Fox, Berwick.. Location.
Pure Oil Co.'s No. 2 Wax Lake, Sec. 12-17s-9e ..... Drlg. shale 4,305 ft.
The Texas Company's No. 1 South Coast, Sec. 41-14s-10e.. Drlg. 1,000 ft.

TERREBONNE PARISH

Charles Paggi's No. 2 Evergreen, Sec. 145-15s-16e ..... Standing 1,818 ft.
The Texas Company's No. 4 State-Bay St. Elaine ..... Pulling screen 5,186 ft.
The Texas Company's No. 1 La. L. & E. Co., Bay Junope.. Cap rock 4,056-75 ft.
The Texas Company's No. 3 State, Caillou Island ..... Rig.
The Texas Company's No. 4 State, Lake Barre ..... Rig.
The Texas Company's No. 2-A State, Dog Lake ..... Drlg. sand and lime 4,574 ft.

CANADIAN FIELDS

(Continued from Page 52)

(formerly Hol-Gar's No. 1) is reported rigging up.

Inland Petroleum, Ltd., has been organized by Coleman, Alberta, interests and will drill No. 1 test in the Red Coulee Field where the company holds 240 acres. Officers are: President, A. M. Morrison, Coleman; vice president, George Fisher, Natalp; secretary and managing director, Arthur M. Densmore, Lundbreck; directors, T. Harry Cox, Fernie, British Columbia; George Cruickshanks, Hillcrest; John Shanks, Nordegg.

Alberta Keystone Petroleum, Ltd., has been incorporated under Alberta charter with office at Calgary and will drill its first Canadian test in the Red Coulee Field. The company has taken over five producing wells in the Kevin-Sunburst Field. Officers are: President, Frank Whitton, Edmonton; vice president, H. E. G. H. Scholfield; secretary-treasurer, A. C. Galbraith; directors, J. W. Hefferman, Nelson Smith, Dr. E. W. DeLong, and A. C. Stuart. Field operations will be in charge of A. C. Stuart, formerly associated with the Royal Dutch-Shell interests in the Dutch East Indies. F. J. S. Sur, of Calgary, is consulting geologist.

New locations in the Alberta end of the Red Coulee Field include A. F. Click Syndicate's No. 1, LSD 1, Section 7-1-16w4; Bush Petroleums' No. 1, LSD 16, Section 25-1-16w4; Guardian Oils' No. 1, LSD 7, Section 16-1-16w4; Hargal Oils' No. 3, Section 10-1-17w4; Maxwell Syndicate's No. 1, LSD 1, Section 7-1-16w4; Scottish United Oils' No. 1, LSD 1, Section 18-1-16w4. Commonwealth Petroleums' No. 2, LSD 10, Section 3-1-16w4, is reported rigging up, and Hallmark Petroleums' No. 1, LSD 11-12, Section 20-1-16w4, has cellar dug.

Imperial Operations

In the Turner Valley, Royalite Oil Co.'s No. 19, LSD 5, Section 6-20-2w5, in the central field, is reported making 200 bbls. from the lime at 5,020 feet, following a shot. Two more wells of the Imperial string in South Turner Valley will be shot. Hargal Oils' No. 1, Section 20-19-2w5, and Baltac Oils' No. 1, same section.

A. M. McQueen, vice president and production manager of Imperial Oil, Ltd., recently arrived in Calgary to inspect operations. It is unofficially reported this inspection is preliminary to the making of a number of new locations, probably on Royalite and Dalhousie acreage in the southern part of the central field. Home Oil Co.'s No. 7 has been located toward the SE cor., Section 20-19-2w5, offsetting Wellington Oils' No. 1 producer.

Advance Oil Co.'s No. 5-A, LSD 16, Section 19-19-2w5, got the lime at the record depth of 6,032 feet and is preparing to cement casing before drilling into the producing horizon.

South Turner Valley

South Turner Valley has not been definitely determined. In Section 20-19-2w5, Freehold Oil Corp.'s No. 2, LSD 8, got a further gas flow 315 feet in the lime at 4,422 feet and has lifted tools for a production test. Gas flow is reported around 17,000,000 feet and crude naphtha recovery will run around 300 bbls. Production is being delivered to Imperial Oil, Ltd. Calmont Oils' No. 2, LSD 11, is testing production but hampered by intermittent freezing. Alberta Pacific Consolidated's No. 2, LSD 5, showed further gas 700 feet in the lime at 5,860 feet, and is being given a shot. Freehold Oil Corp.'s No. 3 LSD 8, has spudded in and is drilling.

In Section 4-19-2w5, Mercury Oils' No. 2, LSD 12, is drilling in the lime at 5,237 feet with a fair gas show. Mill City Petroleums' No. 1, LSD 14, is 550 feet in the lime at 5,065 feet, with some wet gas, and will be shot. In Section 16-19-2w5, Homestead Oils' No. 1, LSD 5, is drilling below 4,805 feet with a small production indicated.

Central Turner Valley

In the Central Turner Valley, Freeman-Lundy Syndicate's No. 1, LSD 10, Section 1-20-3w5, was given a shot about 475 feet in the lime at 5,373 feet and is testing production. It is estimated around 12,000,000 feet with about 200 bbls. crude naphtha recovery.

An important new test is being started by Dome Oils, Ltd., in LSD 16, Section 36-19-2w5, on a 20-acre sublease from Okalta Oils, Ltd., on the east side of the structure just south of Okalta's No. 1 producer. Derrick is up, and it will spud in about June 10.

Oil Show in Foothills

On the Highwood structure, Western Alberta Oil Co.'s No. 1, LSD 11, Section 7-17-2w5, is bailing at 3,878 feet, more than 746 feet in the lime, after encountering a strong show of 34.4 gravity crude. This is the first discovery of green crude of this grade in the Madison. The test may be deepened or shot. A showing of 42 gravity crude was met at 3,505 feet.

Pincher Creek Show

In the Pincher Creek district, close to the Montana boundary, Weyman Petroleum's No. 2, LSD 5, Section 7-6-1w5, encountered a flow of wet gas, estimated 500,000 feet, at 1,862 feet, and is deepening. Production is apparently coming from the upper Fernies, corresponding to the Dalhousie sand.

Border Fields

After a considerable period of inactivity, the Cypress Hills Field in southeastern Alberta is getting another play. Eagle Butte Oil Co.'s No. 2, LSD 4, Section 30-7-3w4, spudded in a few days ago. The field was first tested by this company's No. 2, which, in the fall of 1928, got a heavy gas flow at around 3,900 feet, followed by water intrusion. After several attempts to shut off water, the well was abandoned. Eagle Butte's No. 2 is located somewhat lower on the structure. The company holds extensive acreage on the Cypress Hills structure.

In Milk River district, Commonwealth Petroleums' No. 1, LSD 9, Section 9-3-15w4, is drilling in the Devonian lime at 4,070 feet with some gas and a hole full of water. A possible pay is looked for around 4,500 feet. In Keho Lake district, Hudson's Bay's No. 1, LSD 2, Section 17-11-22w4, is rigging up. On Paintearth Creek, Hudson's Bay's No. 1, LSD 5, Section 27-39-15w4, is working on derrick.

In the Acadia Valley district, Fuego Oils' No. 1, Section 34-25-4w4, production has been reported around 60 bbls.

It is reported Medicine Hat has let a contract to the Dominion Drilling Co. for three new wells to develop production from the Medicine Hat gas sand.

On the Montana side, Calgary interests are reported to have acquired acreage in the Dawson-Bear's Den area and are planning an extensive drilling program.

Duvernay Structure

On the Duvernay structure, north of Edmonton, Alberta Pacific Consolidated's No. 1, LSD 5, Section 34-55-12w4, is reported drilling below 209 feet. This is an entirely new structure, a considerable distance north and apparently separate from the Wainwright Field. Gas is expected around 1,700 feet with a prospect of oil at 3,500 feet or less.

Wainwright Field

In the Wainwright Field, east of Edmonton, Bethwain Oils' No. 2 is reported coring in the top of the sand at 2,250 feet with good showings of oil in the cores. Onalta Oils' No. 1, LSD 8, Section 20-45-6w4, looks like a commercial producer. Fabyan Petroleums' No. 1, LSD 8, Section 24-45-8w4, has considerable oil showing in the rotary mud and some gas.

Ribstone Field

In the Ribstone Field, Meridian Oils' No. 1, Section 16-45-1w4, has been again placed on the pump, and made 200 bbls. in two days. Meridian's No. 2, LSD 4, same section, is being drilled into production around 1,830 feet. Oxville Oil & Gas Co.'s No. 1, LSD 15, Section 10-46-2w4, is drilling into the sand for a production test. Triton Oils' No. 1 has arranged to use derrick and equipment from Meridian's No. 2 for its test as soon as Meridian's well is finished. A. B. Palmer and associates of Vancouver are bringing in a rig for structure tests on their Ribstone acreage.

Ontario Fields

In Kent County, Ontario, Olga Oil & Gas Co.'s No. 3, A. F. Stephens farm, Dover Township, got fair shows of gas at several horizons in the Trenton, which apparently did not hold up.

In the D'Clute Field, Raleigh Township, Kent County, Union Natural Gas Co.'s No. 11 has been located on the Ronson farm, Lot 14, Concession 15, south of No. 8 Sullivan. In Dawn Township, Lambton County, Union Natural Gas Co.'s No. 47 is spudding in.

Sarnia Oil & Gas Co.'s deep test in Moore Township finished at 4,200 feet with a small show of gas in the Trenton limestone and may be given a shot. The company has optioned the deep wells and deep drilling rights of the Oil Springs Oil & Gas Co. in Enniskillen Township.

British Columbia

In the Flathead district, southeastern British Columbia, British Columbia Oil & Gas Co.'s test near North Forks is reported resuming after the winter shutdown at 1,180 feet. M. W. Cassady is in charge. Shows of oil and gas were met around 900 feet, and further and heavier shows at 1,020 feet. It is planned to carry the test to 5,000 feet if necessary. The showings indicate prospects of a high grade crude, though nothing approaching commercial production has been encountered.

MICHIGAN FIELDS

(Continued from Page 56)

Four new wells to be drilled in the proven Mount Pleasant Field all will be located in the Chippewa Township side as follows: Stork Oil Co.'s No. 10 Stilgenbauer & Russell, NE NE, Section 12-14n-3w, Chippewa Township, Isabella County; Pure Oil Co.'s No. 9 J. Fox, SW SE NE, Section 13-14n-3w; Otsego Oil Co.'s No. 3 Retta Lee, NW NE, Section 12-14n-3w; and the Leonard Petroleum Co.'s No. 8 McClintic, NW NW NE, Section 11-14n-3w.

Interesting Wildcats

Two wildcats which are attracting considerable attention in the Mount Pleasant area already have been started on locations in Vernon Township, Isabella County, near the successful Anna Bowman well of H. E. Pollock located SE NE, Section 27-16n-4w.

The two new wells are: George Talbot's No. 1 Carmichael, SW NE, Section 22-16n-4w, and the Mellon-Pollock Oil Co.'s No. 1 A. W. Lynch, SW SW, Section 26-16n-4w.

A third well also is expected to be started in the near future in the same vicinity, insuring it a good play to prove up possibilities of a new pool in the section northwest of the proven Mount Pleasant Field. The trend of new development in the Mount Pleasant area now is in this direction.

Almost as much interest is being displayed in two other wildcats which are being started near the Isabella Oil Development Co.'s No. 1 Keeler-Mitchell, 10,000,000-foot gasser brought in some time ago in the Marshall formation at 1,325 feet. This well is located about 15 miles west of Mount Pleasant and more than 20 miles due west of the proven Mount Pleasant Field.

One of the new tests is the Isabella Oil Development Co.'s No. 2 Keeler-Mitchell, NW NE, Section 10-14n-6w, and the other is the Sias Oil Development Co.'s No. Doctor Pool, SW NE SE, Section 18-14n-6w, also Broomfield Township.

Two permits for wells between the two proven fields of Muskegon and Mount Pleasant were granted as follows: Edward DuVall's No. 1 Parkhurst, NE SE, Section 9-17n-10w, Richmond Township, Osceola County, near Reed City, and Benedum-Trees Oil Co.'s No. 1 Grove, NW NW SE, Section 14-15n-7w, Sheridan Township, Mecosta County. The two counties adjoin each other.

Two new wells on the east side of the State, the first in the Thumb district and the second in the southeast corner of the lower peninsula, will be: Shepherd Oil & Gas Co.'s No. 1 Art Vincent, NW NW, Section 6-1n-16e, Lexington Township, Sanilac County, and William J. Morris, trustee's No. 1 Lidster, NE NW NW, Section 18-6s-6e, Dundee Township, Monroe County.

Of the other two wildcats, one will be near the Michigan-Ohio line and the other in the southwest corner of the State as follows: La-Du Oil Corp.'s (of Pontiac) No. 2 Mrs. A. Long. NE NE, Section 2-7s-5e, Deerfield Township, Lenawee County, and the Dayton Oil & Gas Co.'s No. 1 Warner, SE NW, Section 29-4s-14w, Decatur Township, Van Buren County.

Mount Pleasant Field

Final reports show five holes dry and abandoned in and near the Mount Pleas-

ant Field, some of which had been reported dry but shut down only.

One was in the field, or very close to production, two were in adjoining townships and two were near Clara, about 15 miles north of the proven field. One wildcat which made a small amount of oil and looked like a good new development when it was brought in also is being plugged and abandoned. Only one new producer was reported.

The Pure Oil Co.'s deep test to 4,821 feet on the Glenn M. Reem 6-A SE SE, Section 12-14n-3w, Chippewa Township, Isabella County, was dry and abandoned this week. Originally it was a 40-bbl. producer in the Dundee at a total depth of 3,590 feet.

S. B. Ridenour and F. L. Snyder's No. 1 Nelson, NE NW, Section 25-12n-4w, Seville Township, Gratiot County, near Alma, which has been shut down for some time, was declared dry, plugged and abandoned this week at a total depth of 3,395 feet.

The Uhl-Sarver-Raymer's No. 1 T. McManaman estate, NW SE, Section 31-16n-4w, Vernon Township, Isabella County, was dry, plugged and abandoned at 4,055 feet.

The Midland Oil Development Co.'s No. 1 Buck, SE NW, Section 19-15n-2w, Geneva Township, Midland County, which looked like a good 5-mile extension of the field when it first drilled into the Dundee pay sands at 3,648 feet, has been plugged and abandoned at about 3,680 feet. Water was struck when this well was deepened from 3,660 to 3,678 feet in an attempt to increase its production. It made 15 bbls. a day until drilled into water.

The only new producer in the field is the Dixie Oil Co.'s No. 3 Davis, NE NE SW, Section 2-14n-3w, Chippewa Township, Isabella County, which came in as a 200-bbl. initial in the Dundee. The Dundee limestone was topped at 3,517 feet, the pay sands at 3,552 and the bottom of the hole is at 3,593 feet.

Production of the Pure Oil Co.'s No. 3 Fred Sias, NW SW, Section 8-14n-2w, Greendale Township, Midland County, reported last week before it had been completed, exceeded 700 bbls. Dundee was topped at 3,507 feet, pay sands at 3,536 feet and the bottom of the hole is 3,579 feet.

Clare County

Two Clare County wildcats were announced dry, plugged and abandoned this week. The one is J. A. McKay and John A. Mercier's No. 3 Citizens State Bank, SE SE, Section 31-18n-4w, Hatton Township, Clare County, dry at 3,951 feet. and the other is the Clare Development Co.'s No. 1 Mary Hubel, SW SW, Section 27-17n-4w, Grant Township, Clare County, dry at 3,840 feet. The latter well was near the village limits of Clare and the former near the original 4,000,000-foot gas well in the Marshall formation that started the play around Clare.

Muskegon County

A shot in the upper Traverse is expected to make about a 10-bbl. upper Traverse producer of the National Petroleum Corp.'s No. 1 Fred A. Eadus, SE NE, Section 12-10-17, Laketon Township, Muskegon County.

Another well unsuccessful in the Dundee also has been plugged back and will be produced in the upper Traverse as soon as tubing and rods can be installed. It is Mrs. C. G. Marsh's No. 1 Albert Young, SE NE, Section 12-10-17, also Laketon Township, on U. S. Highway 31.

Two wells are drilling in the Muskegon Township area of the field and a new well is being started by the Lima Oil Corp. as its No. 8 Louis P. Haight, SW SW, Section 9-10-16.

The Muskegon Oil Corp.'s No. 2 Torrent, NW SE, Section 8-10-16, on the river flats, is deepening from the upper to the lower Traverse at about 1,800 feet deep. The Crest Oil Co.'s new No. 1 Moch, NE SE NE, Section 7-10-16, is the other drilling well.

Newaygo County

A show of gas estimated to be good for about 60,000 feet has been struck in the Atlantic Exploration Co.'s No. 1 Brydges, NW SW, Section 12-11n-13w, Ashland Township, Newaygo County. The gas was struck at about 5,300 feet in what was believed to be the lower Niagara formation. The well is now drilling ahead at 5,463 feet and probably will be continued another 100 feet or more before it is abandoned.

The other drilling test is the Newaygo Oil & Gas Co.'s No. 1 A. J. Bates, NE SE, Section 12-13n-13w, Sherman Township, which is now about 4,450 feet deep. It was drilled to 3,900 feet last fall and is now being carried to 5,000 feet or more. Six other wildcats started in the county last year are as yet uncompleted and now shut down.

SOUTHWEST TEXAS

(Continued from Page 49)

and southeast line of tract in the J. R. Robinson Survey, total depth 2,588 feet, completed, flowing 420 bbls. per day.

Dobrowolski Pool—Bexar County

Penn-Tex Oil Co.'s No. 1 Sandimeyer, 2,520 feet east of west line, 1,120 feet north of south line in the M. Menchaca Survey, total depth 705 feet, completed, producing 10 bbls. per day.

ABANDONED TESTS

Jennings Pool—Zapata County

Magnolia Petroleum Co.'s No. 3 Cuellar, 150 feet to northeast and southeast lines, Survey 245, total depth 4,532 feet, abandoned.

Cole Pool—Webb County

South Texas Production Co.'s No. 1 S. Benavides, 200 feet northwest line, 150 feet southwest line, Myrtle E. Hale Subdivision, Block 18, Mariano Arispe grant, total depth 3,023 feet, abandoned.

NEW LOCATIONS

Darst Creek—Guadalupe County

The Texas Company's No. 3 Dallas Wilson, 150 feet south line, 366 feet from west line of 50-acre tract in the J. C. Darst Survey, total depth 2,100 feet, drilling in Taylor marl.

Jennings Pool—Zapata County

O. W. Killam's No. 19 "B" Cuellar, 1,700 feet south line, 3,330 feet east line, Survey 277, rigging up.

Morris & Allen and Nordan & Morris' No. 1 J. G. Gutierrez, 150 feet northeast line, 150 feet northwest line, Share 4, Fansler Partition, Comitas grant, derrick.

Nordan & Morris' No. 1 "A" I. G. Trevino, 150 feet southeast line, 150 feet east line, Block 6, Survey 65, spudded in.

Nordan & Morris' No. 1 "B" M. Trevino, 1,233 feet southwest line, 150 feet northwest line, Block 15, Survey 65, rigging up.

DRILLING ACTIVITY

Cole Pool—Duval County

Cole Petroleum Co.'s No. 69 R. Benavides, 660 feet northeast line, 693 feet northwest line, Cole Subdivision, Mariano Arispe grant, Block 6, Survey 20, total depth 50 feet, drilling.

W. E. May's No. 1 R. Benavides, 150 feet southwest line, 150 feet southeast line, Cole Subdivision, Mariano Arispe grant, Block 4, Survey 22, total depth 850 feet, standing.

F. S. Bain and Miller I Shaw's No. 1 S. Benavides, 1,950 feet west line, 180 feet north line, Survey 173, total depth 2,414 feet, sand 2,410-14 feet, testing.

Kohler Pool—Duval County

Humble Oil & Refining Co.'s No. 45 Kohler, 1,155 feet east line, 330 feet north line, Survey 144, total depth 1,750 feet, set 6⅝-inch casing at 1,745 feet.

Simms Oil Co.'s No. 9 Dinn, 660 feet east line, 660 feet south line of northwest of southeast of Survey 143, rigged up, standing.

Humble Oil & Refining Co.'s No. 41 Kohler, 2,970 feet south line, 330 feet east line, Survey 165, location.

Schoolfield-O'Byrne—Duval County

Magnolia Petroleum Co.'s No. 1 Lundell, 450 feet north line, 150 feet east line, southeast, Survey 60, total depth 3,300 feet, drilling in sticky shale.

Roma Pool—Starr County

The Texas Company's No. 1 "B" V. C. de Guerra, 150 feet south line, 150 feet west line of north 1,173 acres, Share 92, Porcion 68 of Partition Porcion 67, 68, 69, 70, 71, 72, Jurisdiction of Mier, total depth 3,628 feet, drilling.

Aviator Pool—Webb County

O. W. Killam's No. 1 "V" A. M. Bruni, 178 feet east line, 1,180 feet north line, Block 22, Brown Subdivision, Albercas grant, total depth 3,449 feet, drilling.

Caroline-Texas Pool—Webb County

E. D. Claggett and Sam Evans' No. 1 Webster, 150 feet south line, 990 feet west line, Survey 684, total depth 1,990 feet, drilling.

W. R. Shankle's No. 2 Webster, 1,170 feet west line, 150 feet south line, Survey 684, rigging up.

Cole Pool—Webb County

Magnolia Petroleum Co.'s No. 2 A. Benavides, 150 feet north line, 150 feet east line, Survey 660, total depth 200 feet, drilling.

Magnolia Petroleum Co.'s No. 4 C. Benavides, 150 feet south line, 150 feet west line, Survey 662, location.

S.R.C. Co.'s (Trinity Drillers, Inc.) No. 1 Montemayor, 150 feet north line, 150 feet west line, Block 8, Survey 64, location.

S.R.C. Co.'s No. 2 Trevino, 150 feet south line, 150 feet west line, Survey 66, Block 8, derrick.

French Oil Corp.'s No. 2-A R. Benavides, 550 feet north line, 150 feet west line, Survey 659, rigging up.

Morris Drilling Co.'s No. 2 S. Benavides, 289 feet northwest line, 150 feet northeast line, Myrtle E. Hale Subdivision, Block 431, Mariano Arispe grant, total depth 1,900 feet, drilling.

Charco Redondo Grant—Zapata County

Mid-West Public Utilities Co.'s No. 1 Garcia, 450 feet southwest line, 450 feet southeast line of M. P. de Garza tract, Block 33, Pedernal grant, total depth 1,400 feet, drilling.

C. R. Moore and J. M. Moore's No. 1 Adela G. de Flores, 330 feet northwest line, 330 feet northeast line, E. M. Doty Oil & Gas Subdivision, Block 99, Charco Redondo grant, location.

Jennings—Zapata County

Alamo Drilling & Leasing Co.'s No. 1 Trevino, 450 feet west line, 150 feet south line, Block 1, Survey 66, location.

Alamo Drilling & Leasing Co.'s No. 2 Trevino, 150 feet east line, 150 feet south line, Block 1, Survey 66, rigging up.

Alamo Drilling & Leasing Co.'s No. 3 Trevino, 750 feet east line, 150 feet north line, Block 1, Survey 66, location.

O. & A. Co.'s (John J. O'Hern) No. 2 Gracia, 150 feet northeast line, 450 feet northwest line, Share 3, Fansler Partition, Comitas grant, rigging up.

Penny Production Co.'s No. 1 Trevino, 300 feet southeast line, 200 feet northeast line, Marts & Beavens Subdivision of Porcions 2 and 3, Block 6, Survey 4, total depth 80 feet, set 12-inch casing at 80 feet.

Arnold & Ahler's (Wicker and others) No. 1 M. Garza, 450 feet northeast line, 450 feet northwest line, Block 1, Subdivision Zorro Ranch, Comitas grant, total depth 500 feet, drilling.

O. W. Killam's No. 17-B Cuellar, 150 feet south line, 150 feet southwest line, Survey 277, location.

O. W. Killam's No. 18-C Cuellar, 2,804 feet southeast of northwest corner, 150 feet southwest line, Survey 278, total depth 1,554 feet, coring.

O. W. Killam's No. 24 Cuellar, 2,926 feet northwest line, 150 feet northeast line, Cerrito Blanco grant, derrick.

S.R.C. Co.'s No. 1 F. Cuellar, 150 feet northwest line, 150 feet east line, Block 12, Survey 65, location.

O. W. Killam's No. 23 Cuellar, 150 feet northeast line, 28 feet northwest line of May & Holder 80-acre tract or 4,765 feet northwest line of Cerrito Blanco grant, total depth 1,870 feet, drilling.

H. Muckleroy, Jr.'s No. 3 Trevino, 460 feet south line, 300 feet east line, Block 25, Survey 412, rigging up to drill deeper from 1,281 feet.

South Texas Production Co.'s No. 9 Measles and others, 3,830 feet southeast line, 660 feet northeast line, Cerrito Blanco grant, total depth 1,756 feet, drilling.

Alamo Drilling & Leasing Co.'s No. 2 Trevino, 500 feet east line, 150 feet north line, Block 1, Survey 66, derrick.

R. F. Blankenship's No. 2 Garza, 425 feet west line, 425 feet north line, Block 2, Survey 413, total depth 1,650 feet, preparing to drill deeper from 1,650 feet.

Pettus Field—Bee County

Houston Oil Co.'s No. 1 J. R. Beasley center of Block 36, Pettus Townsite, total depth 797 feet, drilling in sticky shale.

Humble Oil & Refining Co.'s No. 3 J. McKinney, 150 feet from west line, 1,200 feet south of No. 1, in the L. C. Randolph Survey, total depth 4,006 feet, topped discovery well sand, preparing to run casing.

Union Production Co.'s No. 9 George Ray, 150 feet from east line of survey, 1,450 feet south of north corner of L. C. Randolph Survey in the G. A. Kerr Survey, total depth 4,008 feet, topped discovery well sand, preparing to run casing.

Lasater Pool—Brooks County

Houston Oil Co.'s No. 1 Holbein-Wormser, 330 feet north line, 6,540 feet east line, Palo Blanco de Maguellas Survey, total depth 6,003 feet, milling out at 3,748 feet.

Cartwright Pool—Live Oak County

Houston Oil Co.'s No. 22 Cartwright, 500 feet east of No. 18 in the J. M. Colchado Survey, spudded in.

Houston Oil Co.'s No. 1 R. Booth, 3,000 feet from west line, 300 feet south line, in the M. B. Kilvin Survey, total depth 4,075 feet, drilling in hard shale.

Agua Dulce Pool—Nueces County

Houston Oil Co. of Texas' No. 1 M. D. Brooks, 330 feet from north and east lines of fractional Section 29, Benton Pasture Subdivision, Los Sauces grant, total depth 2,956 feet, drilling in shale.

Nursery Pool—Victoria County

Humble Oil & Refining Co.'s No. 3 Jay J. Welder, 1,634 feet southeast line, 736 feet southwest line in the D.L.&C. Survey, total depth 5,884 feet, drilling, estimated 500,000 feet gas.

Bruner Field—Caldwell County

Humble Oil & Refining Co.'s No. 7 T. Briscoe, 300 feet north of No. 3 in the J. Hinds Survey, location.

Humble Oil & Refining Co.'s No. 4 H. W. New, 1,546 feet from west line, 150 feet from north line, in the J. Hinds Survey, location.

Buchanan Pool—Caldwell County

Edward Lange and others' No. 1 Geoffery, 745 feet south and north line, 150 feet east and west line of lease, in the C. M. Cannon Survey, total depth 1,98[illegible] feet, shut down.

Darst Creek—Guadalupe County

Empire Gas & Fuel Co.'s No. 5 Dowdy, 792 feet from north line, 150 feet from east line of tract, in the J. C. Darst Survey, derrick.

W. H. Gee's No. 1 Denman, 2,684 feet from west line, 3,350 feet from south line in the A. S. Emmett Survey, total depth 2,290 feet, drilling in Taylor marl.

Gulf Production Co.'s No. 2-A Dix-McKean, 150 feet from southeast line and southwest line of 20-acre tract, in the J. R. Robinson Survey, total depth 2,51[illegible] feet, waiting on casing.

Gulf Production Co.'s No. 2 Maleau, 450 feet from southwest line, 150 feet northwest line 72-acre tract, in the J. R. Robinson Survey, location.

Humble Oil & Refining Co.'s No. 2 D. Baker, 472 feet from north line, 18[illegible] feet from east line of tract, in the J. C. Darst Survey, total depth 2,200 feet, drilling chalk.

Magnolia Petroleum Co.'s No. 2 Richbury, 750 feet from southwest line, 1[illegible] feet from southeast line of tract, in the J. R. Robinson Survey, location.

Penn-Tex Oil Co.'s No. 1 S. M. Roane, 150 feet from south line, 1,400 feet west of east line of 150-acre tract, in the J. R. Robinson Survey, total depth 1,9[illegible] feet, drilling in sandy shale.

Sun Oil Co.'s No. 2 Manford, 150 feet from southwest line of tract, 300 feet southeast of No. 1 well, in the J. Hodge Survey, total depth 2,803 feet, plugged back from 1,903 feet.

Sun Oil Co.'s No. 8 Knoblock, 150 feet from north and west lines of tract, in the J. W. Robinson Survey, total depth 2,4[illegible] feet, fishing.

The Texas Company's No. 4 Posey, 12[illegible] feet out of east corner of west 40-acre tract, location.

The Texas Company's No. 5 Posey, 15[illegible] feet out of north corner of east 40-acre tract, location.

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ROCKY MOUNTAIN AREA

(Continued from Page 52)

1,320 feet south of north line, Section 20-23-36, is a location, a little less than one-fourth mile west of its No. 3 State, a producer. This company's No. 4 State, NW NE NW, Section 21-23-36, is drilling at 3,790 feet in lime. A break was encountered at 3,700-05 and another at 3,747-52 feet, and the hole is spraying 65 bbls. of oil. Cranfill & Reynolds' No. 1-C State, SW SE SW, Section 16-23-36, has recovered lost tools and is plugging back from 3,953 feet to shut off sulphur water. First water was at 3,810 feet.

Jal Area—Lea County

Midwest Refining Co.'s No. 34 Farnsworth, SW SE SE, Section 13-26-36, is bottomed at 1,370 feet and straightreaming 12½-inch, and its No. 19 Farnsworth, NW SW SW, Section 14-26-37, set 20-inch at 225 feet.

Maljamar Area—Lea County

Maljamar Oil & Gas Co.'s No. 3 Baish, NE NW, Section 21-17-32, is drilling at 3,125 feet in gray lime.

Tatum Area—Lea County

A. D. Morton and others' No. 1 State, C NW, Section 32-11-38, is reported to have had a show of oil at 5,140 feet. It is about 700 feet below the top of brown lime.

Maljamar Area—Eddy County

Pueblo Oil Co.'s No. 5 Russell, SW NW, Section 18-17-31, is drilling at 3,330 feet and had a show of oil at 3,240-45 feet, and Henderson, Dexter & Blair's No. 1 Grier, SW NW, Section 21-16-31, is drilling at 3,790 feet.

Artesia Area—Eddy County

Pecos Valley Gas Co.'s No. 6 Vandergriff, C SW NE, Section 5-17-28, is drilling at 1,120 feet and had a hole full of water from 1,090-1,103 feet.

San Juan County

Southern Union Gas Co.'s No. 2, SW cor. NW, Section 14-28-11, Kutz Canon district, is spudding with rotary. Kutz Canon Oil & Gas Co.'s No. 1 Day, SW cor., Section 20-28-10, is drilling at 1,450 feet, and Dorothy Oil Co.'s No. 2 Goede, NW SE, Section 29-30-9, Blanco district, is fishing at 1,540 feet.

COLORADO

A showing of oil reported in the Platte Valley Petroleum Co.'s No. 1 Patterson, NE SW SW, Section 24-6n-61, on the Greasewood Dome, in Weld County, was the most interesting development in Colorado. This structure has been known for many years, but no test was made until the present operation because it was expected the prospective oil sands would be found very deep. The Greasewood well was spudded in May 6, 1926, and has been under way at intervals for four years. It is bottomed at 6,228 feet where the oil show occurred. The hole has been showing a little gas in shale for some time and the quantity appeared to be increasing slightly with depth. At 6,228 feet the gas pressure was quite a little heavier and it was decided to stop and underream and lower 4¾-inch casing which is being carried close behind the tools. Late Tuesday afternoon the bailer was run to clean out and it came up with sufficient crude oil to coat the water after being allowed to stand a few minutes. The importance of the showing lies in its appearance near the break between the Niobrara and Benton shales. This break is called the Codell sandstone by Sears and others and is sometimes known as the Nio-Benton, or the Frontier, or the Wall Creek. In Wyoming it is productive in several fields but has never yielded anything of much value in Colorado. It is estimated the hole is not much more than 10 feet off that horizon and indications are the oil seeped in from below. The objective Dakota sands are estimated to be 400 to 500 feet below the present bottom. The leasing activity in eastern Colorado makes any test of more than ordinary interest and the encouraging show of oil will attract wide attention.

A report has reached Denver that the Producers & Refiners Corp.'s No. 1 Hendershot, SW SE NE, Section 2-6n-81, Pole Mountain structure, in Jackson County, has a good showing of oil at 4,000 feet. The well is shut down, and it is said the drillers are waiting for officials from Independence, Kans. The objective is the Dakota, expected at around 4,300 feet. The well is a wildcat. It has been drilling in sandy lime for the past 200 feet.

Arapahoe County

MacDeb Drilling Co.'s No. 1 Fitzsimmons, NE, Section 7-4s-66, is bottomed at 5,692 feet and waiting for a string of 4¾-inch casing. The 6¼-inch is at 5,650 feet with some kinks at the bottom and cannot be carried lower. H. Brown Cannon's No. 1 Shaffer, NE cor. SE, Section 21-4s-67, south of Fairmount cemetery near Denver, is shut down at 790 feet and will not be drilled deeper. It found a sand below 760 feet that contained water. Some leasing is being done in this county and at least one well will be started within 90 days by Oklahoma parties.

Adams County

Nettie M. Slatt's No. 1 Hills, SE cor., Section 27-3s-64, near Watkins, is drilling at 1,825 feet with shows of brownish-green oil on the slush pit. A show of sticky grease in blue shale above this horizon continued for 75 feet and quality continued to improve with depth until now it has the appearance of live oil.

Morgan County

Indian Territory Illuminating Oil Co.'s No. 1 State, C NE NE, Section 16-1n-57, Fort Morgan anticline, is drilling below 1,530 feet.

Baca County

A. R. Jones Oil Co., of Kansas City, is reported to have derrick up for a deep test in NW NE, Section 22-34s-42, near the Kansas line.

Huerfano County

Parker Club, Inc.'s No. 1 Fee, Section 4-28-68, Badito-Alamo Dome, is still bottomed at 4,115 feet and trying to clear hole of several joints of collapsed pipe to run a string of 6¼-inch and carry hole on down to the Pennsylvanian. It is in the top of the Lakota where a show of oil was found.

La Plata County

Detroit Oil Association's No. 1, NW SW, Section 9-35-12, Thompson Park, is drilling at 2,625 feet, considerably below the Dakota series.

Montezuma County

Mesa Verde Ranch Co.'s No. 1 Haller, SE SE, Section 29-36-14, Mancos divide, is drilling at 1,100 feet and continues to show gas. This well was started to secure a water supply for a cottage camp, but a substantial show of gas was found at around 740 feet.

Mesa County

Argo Oil Co.'s No. 1 Hoel, NE cor., Section 23-8s-104, High Line, is still bottomed at 3,000 feet and drilling on iron.

Rio Blanco County

Magnolia Petroleum Co.'s No. 1-A Fordham, NW SW. Section 9-2s-96, Piceance Creek, is drilling at 4,120 feet in shale. An encouraging show of oil was encountered around this depth and the hole is believed to be within 200 to 300 feet of the objective sand in the Green River formation which shows saturation at the outcrop. Texas Production Co.'s No. 1 Potter, NE SW, Section 30-2n-93, White River, is still testing shows of gas between 5,455-5,980 feet. At last reports the gas was flowing at the rate of better than 1,000,000 feet a day.

Routt County

The Tow Creek Pool, in which there has been no drilling for several months, is showing some activity. Texas Production Co. is moving in for its No. 7 Quaintance-Hocking, C N half NE SE, Section 18-6n-86. It is about one-fourth mile east and same distance southwest of producers.

Fremont County

Isadore Spangler's No. 1 Tucker, NE SE NW, Section 27-20s-69, in south extension of the Florence Pool, is drilling at 400 feet.

Park County

South Park Oil Co.'s No. 1 Milligan, NE cor. SE, Section 13-8s-76, Jefferson structure, is drilling below 200 feet. The Frontier is expected at around 1,240 feet.

Jackson County

Midwest Refining Co.'s No. 21-X Rich, SW NW, Section 9-6n-80, Buffalo Creek, is drilling at 3,650 feet in blue and white shale, and the Producers & Refiners Corp.'s No. 1 Hendershot, SE NE, Section 2-6n-81, Pole Mountain, is shut down at 4,000 feet.

Moffat County

Texas Production Co.'s No. 6 Knowlton, Lot 8, Section 10-4s-91, Moffat Dome, is drilling at 4,476 feet in the Morrison, and its No. 12 Knowlton, SW SE, Section 33-5n-91, is moving in rotary rig used on the White River structure in Rio Blanco County. Midwest Refining Co.'s No. 19-SD Parkinson, SW NE, Section 22-4n-92, Iles Dome, is bottomed at 3,440 feet in gray and green sandy shale with good show of oil and gas and is preparing to run 6¼-inch. Same company's No. 24 Hannewalt, SE SE, Section 4-6n-92, Bell Rock, is bottomed at 2,706 feet and lowering 10¾-inch pipe. Texas Producitons Co.'s No. 1 Berlin, SW NE, Section 19-12n-100, Bartram Dome, is standing for a test of a gas sand at 2,565-73 feet.

WYOMING

All the assets of the Dallas Dome Wyoming Oilfields Co., including leases, production, pipe lines and equipment, were reported to have been acquired by Atlantic-Pacific Oil Co. of Wyoming. The property includes 1,400 acres south of Lander in Fremont County on the Dallas and Derby Domes, upon which are 30 wells, and a 6-mile pipe line to loading racks on the Chicago & Northwestern railroad at Wyopo. Dallas Dome Wyoming Oilfields Co. is an English concern with Campbell Hunter, of London, as president, and Frank M. Brooder, of Lander, as vice president and general manager. Wallace McMullen, of Alberta, Canada, represented the English concern in the deal and Walter S. Clute, petroleum engineer, of Los Angeles, represented the purchasing company.

Atlantic-Pacific company is identified with the Milham Exploration Co. and Mexican Seaboard Oil Corp., of which John Hays Hammond, noted mining engineer, is one of the principal owners. The properties produce black oil from the Embar formation. Last year one well on each structure was drilled to the Tensleep which was found productive. Walter S. Clute will be general manager and Mr. Brooder will remain as auditor and sales manager. The expansion program provides for electrifying the field.

Osage District

The Osage Field in Weston County, northeastern Wyoming, which came in for considerable interest early this year when the Osage Trust Co. drilled in a well in the NE SE, Section 14-46-64, on the west side from which most of the production previously had been found, which made 800 bbls. in 20 hours, again takes a prominent place in the news. James McCullough's No. 1 Logan McCullough, NW NE NE, Section 23-46-64, about half a mile to the south of the Osage Trust gusher, topped the sand at 1,699 feet. When 4 feet in, it put 60 bbls. into the tank in four hours. The hole was standing with 1,000 feet of fluid in it and the gas cleaned the hole and caused it to flow. It looks as if it will make at least a 200-bbl. well. The pay is that in which the big production was found in the Osage Trust well, a third lease in the Muddy, or upper Dakota. Frank Eaton who reports on operations for the Osage Oil Producers Association, says the new well opens up possibilities on a lower terrace of the Osage Field. There was no water showing in the sand, nor was there any water in the muddy at 1,930 feet in the Wyomont Producing & Refining Co.'s No. 1 State, NE NE, Section 10-46-64, 1½ miles northwest and structurally lower. The Wyomont well appeared to be near one of the streaks that seals the Muddy sand in places. The Osage Field produced 22,530 bbls. of oil in May, including runs to all of the small refineries in the district. The Osage Trust Co.'s No. 3, NW cor. SW, Section 13-46-64, an offset on the east to its Jones well, is drilling in and showing considerable gas. The sand was topped at 1,531 feet when the pipe was cemented. M. K. Mouser's No. 1 Julius Bock, NW cor., Section 2-46-64, is moving in a larger machine. Straitiff & Curtis' No. 1 Updike, CSL SE NE, Section 14-46-64, north of the Osage Trust well, which last week was showing oil upon being drilled deeper, is running 5⅛-inch casing to shut off caved ground before completing. Wesco Oil Co.'s No. 5 Fee, SE NE SE, Section 13-46-64, is drilling at 1,430 feet, and Kelso Oil Co.'s No. 1 State, SE cor. NE, Section 11-46-64, is drilling at 600 feet. Osage Trust Co.'s No. 4, SW cor. NW, Section 13-46-64, is drilling at 700 feet, and its No. 5, NW cor., Section 13-46-64, is drilling at 700 feet. Same company's No. 6, NW SW NW, Section 13-46-64, has commenced spudding. Hugh Updike & Sons' No. 1 Updike, NE cor., Section 14-46-64, is bottomed at 1,500 feet and running oil string before drilling into the sand.

Niobrara County

Ohio Oil Co.'s No. 1 Converse Sheep, SW SE, Section 32-36-65, is redrilling at 2,931 feet with old bottom at 3,12[illegible] feet.

Fremont County

Producers & Refiners Corp.'s No. 1[illegible], Section 14-32-95, Sand Draw, a rotary test which is trying to get through the

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big gas sands in the Frontier to test lower horizons, is drilling at 2,640 feet in shale. The indications are the hole is through the first Wall Creek. Numerous attempts have been made in recent years to drill to the Dakota on top of the structure, but the several gas sands in the Frontier have proven a difficult barrier. The Producers & Refiners' No. 2, SE NW, Section 33-34-92, Muskrat Dome, is drilling at 1,375 feet in shale. Kinney-Coastal Oil Co.'s No. 1 Dykeman, SE SW, Section 22-3n-1w, Pilot Butte, is bottomed at 3,735 feet and rigging up rotary to drill deeper. It gauged 63,000,000 feet of gas in the Muddy, and found the Dakota dry, but at 3,710-20 feet it cut a stray sand showing a little oil. An analysis of cuttings has convinced officials the hole has not yet reached the Lakota. Intentions are to go on through the Morrison and into the Sundance. The rotary will be driven with electrical power obtained from the Riverton project of the United States Reclamation Service. Texas Production Co.'s No. 1 State, SW SW, Section 36-34-95, Alkali Butte, is drilling at 3,552 feet and drawing near to the first objective.

Natrona County

Midwest Refining Co.'s No. 29-DT, NW, Section 35-40-79, the deep test in Salt Creek, is drilling at 4,495 feet with the 6⅝-inch at 4,295 feet. It is in top of the Madison which shows about 65 bbls. of water per day. The pay is expected deeper in that formation. Wyalta Oil Co.'s No. 4 Smith, Section 11-38-78, east of Teapot, is setting up machine and power is on ground to be installed for pumping three producers completed. This company is controlled by the Atlantic Keystone Petroleum Corp., which is reported to have been merged with the Teapot Dome Oils, Ltd., a Canadian corporation with holdings in Alberta and Wyoming. The new company, which will operate under a charter from the Dominion Government, will be known as the Atlantic Keystone Petroleum Corp., Ltd., and is said to have been financed by New York brokers to the extent of $500,000. The Wyalta interests recently purchased the Bolton Creek Oil Co.'s 6-inch pipe line from the Bolton Creek Field to Casper and will use it to transport oil from the Spindletop Field 30 miles southwest of Casper, where the same interests have three producing wells. It is reported the new company will drill ten or more wells at Spindletop this year. Mosher Oils, Inc.'s No. 9, NE, Section 33-40-79, Salt Creek shale area, is drilling at 400 feet and the Hughes Syndicate's No. 1, SE SE, Section 10-39-78, set 5⅜-inch at 1,450 feet. Wind River Oil & Gas Co.'s No. 1 De Long, NE SE, Section 9-38-78, west of Teapot Dome, had water in the first Wall Creek at 3,200 feet and will go on down to the objective second Wall Creek. The Midwest Refining Co.'s No. 11 Middy, NE NE, Section 23-35-79, Midway Dome, is drilling at 2,138 feet in shale, and is making excellent progress. It was turned over to rotary drillers at 214 feet on May 22. Chicago Oil Co.'s No. 3, SW, Section 1-33-83, Poison Spider, is drilling at 2,852 feet in hard lime.

Converse County

Wyoming Big Muddy Oil Co.'s No. 1, SW SE, Section 6-33-76, Big Muddy, the first operation, is ready to spud. The company is capitalized for 250,000 shares of $1 par value. The directors are R. J. Fuchs, R. A. Seibel, George Smith, N. E. Morad and M. C. Weisman, all of Casper.

Carbon County

The Producers & Refiners Corp.'s No. 1 O'Brien Springs, Section 11-24-88, is bottomed at 1,608 feet and bailing hole. Same company's No. 8, NE NW, Section 7-26-89, Wertz Dome, big gasser, to be drilled from the Sundance down to the Tensleep, is fishing for tools after killing gas at 4,150 feet. Midwest Refining Co.'s No. 31 Eades, SW SE, Section 1-18-78, Dutton Creek, is drilling at 4,125 feet in hard sandy shale. C. E. Bivens and S. Marvin James' No. 1 Red Feather, NE NW SW, Section 36-13-92, Baggs Dome, is spudding. It will go to the sand encountered in the deep test at 765 feet. The surface elevation of the new well is 350 feet lower than in the other well and it is 50 feet lower structurally, so sand is expected at 465 to 500 feet. The possibilities for oil at that horizon are considered encouraging as the gas on top of the dome was very wet. Same interests' No. 1, SW SW, Section 35-13-92, is drilling at 2,250 feet after casing off the sand at 2,160-72 feet which was estimated at 25,000,000 to 30,000,000 feet of gas per day. Water above this sand was cased off last fall, but when operations were resumed a few weeks ago it was found the cement plug had been forced to within 200 feet of the top and had to be drilled out.

Sweetwater County

Prairie Oil & Gas Co.'s No. 75-A, Section 11-26-90, Little Lost Soldier, a test to the Tensleep, is drilling at 3,655 feet in red sand.

Sublet County

Charles S. Hill's No. 2, Lot 2, Section 3-26-113, La Barge Field, was completed at 890 feet and is estimated at 75 bbls. initial.

Lincoln County

Midwest Refining Co.'s No. 1 Larcher, SE SE, Section 25-37-117, Little Grays River, is drilling at 1,990 feet in hard rock, probably the Nugget.

Park County

California Exploration Co.'s No. 2, NW NE, Section 14-48-102, Pitchfork Dome, is drilling at 2,590 feet. Continental Oil Co. is moving in material for its No. 26 Elk No. 2, SE NE, Section 24-58-100, Elk Basin Field. This is the first operation in that field for several years. The field is controlled by the Midwest Refining Co., Ohio Oil Co. and the Continental. The new well is an offset to a Midwest well that has been producing for some time. Midwest Refining Co.'s No. 31 Rosenberg, SW cor. SE, Section 24-58-98, Frannie Dome, is drilling at 1,540 feet in hard sandy shale, and its No. 31 Frannie Oil, SW cor. NE, Section 25-58-98, is delayed by casing trouble at 1,990 feet. Charles E. Orchard's No. 7 Rue, SW cor. NW, Section 28-51-100, Oregon Basin, is waiting for tankage to drill in. Texas Production Co.'s No. 1 Freeman, NW SE, Section 30-51-100, is drilling at 2,291 feet.

Hot Springs County

Midwest Refining Co.'s No. 8 Weeks, NW SE, Section 6-44-98, Wagonhound, is drilling at 1,880 feet in shale, and Gebo Consolidated Oil Co.'s No. 1, SW cor., Section 23-44-95, Gebo Dome, has cleaned up fishing job and preparing to core at 1,335 feet.

Big Horn County

Ohio Oil Co.'s No. 1 Easton, NW NW, Section 33-56-97, Byron Dome, is drilling at 3,260 feet with the Madison as the objective, and its No. 1 Union Gas, NE cor., Section 22-56-97, is standing at 5,286 feet.

MONTANA

The Texas Company is starting a deep test on the Woman's Pocket Dome, west of Roundup, Golden Valley County. The structure has had some showings of black oil in previous wells and The Texas Company expects to find a light oil production around 3,000 feet. The structure has never been tested this deep before.

The Jones Oil Co. has started a wildcat on the Coulter Dome, a superimposed dome of the Bowdoin anticline in Phillips and Valley Counties, northeastern Montana. The Jones Oil Co. is looking for gas to supply the lines of the Bowdoin Utilities Co.

The Central Montana Utilities Co. has started a second well near Winifred in the search for gas to supply the city of Lewistown, in Fergus County. The company now has two wildcats drilling for this purpose and expects to find a new gas field in time to fulfill the contract to have gas in Lewistown by 1931 as included in the terms of the franchise.

In the Border Field, the Alberta Pacific-Consolidated well will make a 50-bbl. producer as it stands, but the owners are considering shooting it to try and increase the production. Kotops has a lost string of tools in the well and is trying to side track. The Commonwealth well is drilling at 2,765 feet and still has no commercial showing of oil. Southern

(Continued on Page 140)

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Too Much Gasoline in Chicago Area

While Consumption Is Good, Refiners Are Making Greater Quantity of Motor Fuel Than Distributors Can Absorb

By John B. Waldo

CHICAGO, June 9.—Consumption over the territory continues to be good for the time of the year, but it is June not August and refiners are crowding out material faster than the distributors can absorb it. This condition is becoming more evident from day to day and explains why with more gasoline being consumed the market fails to show any real strength. Some refiners are beginning to appreciate this and are stating that they could see no alternative except a reduction of runs. The contract customers are taking the full amount of their contracts or nearly so but none is purchasing additional quantities, at least from the regular source of supply.

Spot buying was a little more active this morning than at the close of last week but there was no rush of business and a number of jobbers who regularly buy in the spot market stated in response to requests for orders that they had all the gasoline that they could take in. In some instances they would order a single car or so which they would explain was all that they had room for at present.

The major refiners continued to name their former prices most of them quoting 7½ cents on spot sales but this price is not quite as rigidly adhered to as it has been as even some of the larger refiners feel the need of a larger movement of gasoline. In the open spot market gasoline was sold very largely at 6⅝ cents but this was not the low of the market. One of the smaller refining organizations which has been trying to hold first for 7 and then for 6¾ cents dropped its price to 6⅝ cents stating that there was too much 6½-cent gasoline being offered for it to sell at any higher price than it was quoting.

U. S. Motor gasoline was offered to resellers from North Texas, Oklahoma and Kansas at 6¼ cents. In some instances this price was quoted direct to large distributors.

The weather continues very favorable to motoring except that in this vicinity it was too cool for much night driving over the week end. The demand is almost bound to increase and the situation is capable of undergoing a quick change.

There was no activity in any of the other products than gasoline today in the market. Kerosene and domestic furnace oils of all grades were neglected. There were but few inquiries for industrial fuel oil and for gas makers gas oil and with no quotable change in prices there is an almost constant easing of the market.

Excellent Gasoline Weather

June started out as if it intended to prove an exception to the saying of the old-time oil man, "Who ever knew of June being a good gasoline month?" The improvement in the consumption really began with Memorial Day. That day itself was rather chilly in many parts of this territory and the full gallonage was not had, but it began to warm up immediately and was warm in this vicinity until the close of the week. Not alone the days but the nights have been warm, making it almost ideal gasoline weather. And there are numerous indications that gasoline is selling. One of these is the requisitions from station managers. Some refiners with owned station have drawn largely on the gasoline in storage through station shipments alone. Orders for contract customers are excellent. Some concerns put it even more strongly. Inquiries for car numbers show that jobbers are in actual need of gasoline or expect to be shortly.

It is true that the orders from the spot market buyer are only a little better than a week ago, but the trade argues that these spot buyers must be getting their share of the business and if they are not ordering in gasoline they must be drawing on stock. The spot gasoline buyer of today is a sort of survival of the fittest. He has earned his position in the industry largely by his ability to outguess the market and those who believe they make the market. Several first-class oil men, some of them salesmen, have stated recently that they would rather take the views of an experienced, independent jobber who had made a success of his business over a term of years as to the outcome of the market than anybody else they knew of.

Spot Buyers Holding Back

It is a fact that last week the orders from the spot buyers were only a little better than during the previous weeks. For some reason the spot buyer is holding back orders, and this has been a disappointment to the independent refiner. With the beginning of June, refiners began to push for business. They thought that orders were waiting for them and came prepared to enter and fill them in due season. But the orders were limited and the buyers were striking hard for low prices and getting some that compared with those made during the last week in May.

While the major refiners were taking their contract business at the going marginal prices of around 6⅞ cents and quoting the few inquirers for spot cars 7½ cents, the prices in the open spot market have hardly varied at all from what they were 10 days ago. U. S. Motor Gasoline has sold for immediate delivery and for over the month at 6½ to 7 cents. Some of the sellers would book orders for immediate shipment only at these prices, while others were willing to take orders for the full month. Some of this low-priced gasoline comes from West Texas and the cost is about 6¼ cents. Group 3 basis. Other refiners from Louisiana and Arkansas were out for business and some of the middle state plants taking advantage of the differentials were making some low prices as compared with costs from Group 3, in their territory. It was not a week when the market developed real strength.

Weather Conditions Provide Reason

One of the reasons the spot buyer has not been more active in the market is undoubtedly the weather conditions. And it must not be forgotten that the number of spot buyers is being steadily reduced, although a large number of new oil companies are being started, many by former employes of concerns which sold out to larger organizations. Some of the more active of the brokers and a refiner or two have found that there was a real opportunity to get good contracts among these new beginners. As to the credit risk, one of the concerns which has specialized in this class of business stated that the statements were often just as good as those of older companies. In most cases the management was capable and had a good standing in the community in which it operated.

Some of these new oil companies are the result of the increase in population in some districts and the new bidders for business seem to be able to do a profitable trade without taking anything away from the older concerns, but of course they do retard the growth of the latter. In many such cases the older concern will establish stations in advance of actual needs of the district simply to be in possession. But there are always new accounts to be found if the seller will only search diligently.

Small Demand for Higher Gravities

The sale of the higher gravities seems to be decreasing each week. Some central refiners who have had a steady demand for the 60-62 400 gravity are finding it hard to move and are quoting brokers 6¾ cents, but someone evidently is naming still lower prices as sales were made to the trade at less than 7 cents last week. The demand for the 64-66 375 is even less important, just occasional cars, and the price to the trade is not far from 7½ cents. The placing of a large export order, reported here as for 10,000,000 gallons of 64-66 375 at 7¼ cents and 61-63 390 at 7 cents, has seemed to have little influence on this market. It will have a tendency to reduce the quantity of U. S. Motor run but the present supply seems to be ample.

Conditions in the differential territories to the east of this city continue to be made more or less chaotic by quotations from nearby plants based on freight differentials. Eastern Michigan is being quoted low prices based on Group 3 basis which yield the nearby refinery a good return for the gasoline. Now that the lakes are open to tanker shipments from the refineries at East Chicago and Whiting, some of the lake ports as far east as Cleveland are being quoted prices based on practically local refining costs.

Kerosene Idling Along

Kerosene is just idling along in the usual fashion for the time of the year. Most refiners seem to have adjusted their stocks and only an occasional one wants to move any quantity. There is a little buying by some of the larger concerns which must buy a little kerosene from time to time for their own needs. But there is no real activity and prices are practically unchanged at 4 to 4¼ cents, Group 3, for the 41-43 grade.

Domestic furnace oils are marking time. Many contracts have been entered into providing for a supply for the coming season but no real business has been done on fall stocks and none will be for several weeks. The feeling is strong in this market that the real shortage, if any, will be in the heavier grades and that it is going to be a difficult matter to be assured of a supply of any of the 18-22 or 24-26 grades with a low sulphur and a low cold test. One thing that the trade has in mind is the constant shifting of the gravity of the fuel oil to lower and lower ranges as more and more refiners operate cracking plants. The change in the operation of the plant usually results in a drop from say an 18-22 to an 8-10 gravity or thereabouts and at the same time the intrinsic quality of the fuel oil is so changed that it is useless as domestic burner fuel.

There seems to be no doubt of a liberal supply of the distillate and zero gas oil group nor of the higher gravities in the fuel oil class for the past season showed that blended oils could be relied on for service and were practically obtainable at all times. There has been practically no demand for distillate or zero gas oils and only a small movement through local distributors of the various grades of fuel oil. There has been no change in prices.

Demand for Straightrun Gas Oil Light

The demand for straightrun gas oil has continued light and quotations have eased off a little. Some excellent U.G.I. gas oil from a well-known Oklahoma plant sold last week at 2⅛ cents in quantities for delivery over the summer. This was the full 32-36 straightrun gas oil. The 30-32 gravity was pretty generally priced at 2⅛ cents and on some material this price was shaded owing to the qualities in the oil. There is nothing special in the situation so far as the gas companies are concerned. They are as a rule increasing their output, but they are also in many cases adopting more modern methods of manufacturing and many of them are using less enrichment oil. The buyers simply seem to have an idea that there is nothing to be gained through purchasing in excess of their present needs. Of course some contracts have been renewed, but usually on some sort of sliding scale which will be adjusted by changes in the crude prices.

The actual demand for immediate deliveries of industrial fuel oil is light. One reason for this is that large industries are holding back a little, while waiting to receive the first reports on the crop situation. The supply of low viscosity oils seems limited and buyers complain that frequently in response to a request for a price, they receive specifications in which the viscosity is lacking. It is no rare thing for the oil to be sold as a 600 or lower viscosity and test on delivery 850 and even more. In buying a low gravity oil the knowledge of the viscosity is essential, for many concerns can burn a heavy oil provided it will flow to the burners. Several of the local refiners are holding their 18-22 for 60 cents, while a good clean oil with a somewhat higher viscosity is selling at 52½ cents. This latter is not a zero oil. Some of the low gravity cracked fuel is being offered on contracts at prices which figure a net back to the refiner as low as 30 cents a barrel in some cases.

Liberal to Small Dealer

The new Q.D.A. in the Chicago district is certainly liberal to the small dealer. Any garage man or station owner whose sales amount to 1,000 gallons of gasoline in any one calendar month is entitled to a 5-cent reduction from the service station price and even the little man with sales of only 500 gallons of gasoline during any one month is entitled to 4 cents from the station price. Considering the fact that these prices include tank wagon delivery at the station, it would seem that the Q.D.A. for 1,000 gallons of 5 cents was just about as good a contract as a marginal contract with 6 cents under the station price in tank car lots. Certainly the investment would be small under the Q.D.A. and to get a contract with a 6-cent marginal guarantee a dealer would have to have a considerable investment. The new discounts have been approved and put into effect in the Chicago district by all of the leading distributors and should be a good sales argument for them.

There are further indications of plans for a rather large system of the so-called "trackage stations," or as they are sometimes called, "bulk service stations." They are simply a modification of the station located on a siding and said to be able to sell at less by reason of the saving in expense. These, having proven successful, are being copied on a larger scale and in localities where the land values are high. A large and elaborate trackage station is about to be opened on North Broadway where the ground alone is estimated as worth $75,000. The identity of the owners has been concealed but it is understood that they are local capitalists who have had some connection with the distributing business in this city.

WILLIAM J. GOLDEN DEAD

PITTSBURGH, Pa., June 7.—William J. Golden, Meadowlands, Pa., died at his home after a week's illness. He started to work for the Southwest Pennsylvania Pipe Line Co. in 1899, and had been continuously in its service to the time of his death, when the was foreman of stations. Mr. Golden was born February 11, 1873, and is survived by his widow, Nettie Elvira Golden.

Eastern Gasoline Market Fairly Stable

Definite Easiness Has Developed in Other Branches of the Refined Product Market. Cylinder Oils Have Gone Into Slump

By A. E. Mockler
New York Bureau, The Oil and Gas Journal, Rooms 1919-21, No. 154 Nassau Street

NEW YORK, June 9.—Gasoline and the fuel oils appear in fairly stable position in East Coast markets this week, but definite easiness, with a number of price reductions, has developed in other branches of the refined products market during the period.

Cylinder oils in particular have gone into a slump, and prices have been sharply reduced on all grades, with continued shading by refiners indicating the probability of a further general downward revision. The paraffin wax market, likewise reflecting overproduction, is lower this week, and kerosene prices have also been reduced.

The statistical position of the market has shown a little improvement. The April Bureau of Mines report showed a decrease of 1,849,000 bbls. in stocks of all oils, as compared with an increase of 1,205,000 bbls. in the previous month and a gain of 6,492,000 bbls. in April last year. Gasoline stocks in April were off 804,000 bbls., as compared with a gain of 2,010,000 bbls. in March, and a decrease of 1,190,000 bbls. in April last year. Combined domestic and export gasoline demand during April was 9.9 per cent in excess of that for April last year, and registered an increase of 5.9 per cent over March this year.

East Coast refiners are proceeding slowly in seasonal expansion of gasoline production, having to contend with both shipments of California motor fuel and imports of gasoline from South America in their home distributing territories.

Tank Car Gasoline

Aside from a further increase in volume, the refinery gasoline market did not show much change during the week just ended. The principal seller was holding the posted price at 9 cents per gallon, with other factors quoting as high as 10 cents per gallon in tank car lots at refinery terminals. While some talk of an advance in the inside posted price was heard, it was still possible to buy gasoline in one or two quarters at 8¾ cents per gallon, and it is not believed that the larger sellers will let the posted price go higher until this price shading is terminated.

Warm clear weather throughout the area brought about a sharp increase in demand and jobbers were forwarding "rush" shipping orders in a large way. Distributors in many instances are keeping their storage full and adequate replacements rolling at all times to avoid the possibility of being caught with short supplies. The underlying strength in the market and the probability of another price advance, rather than any early reduction, has stimulated confidence materially.

Refiners are getting out barge shipments in ever-increasing volume and distribution via water will account for a larger percentage of total gallonage in the eastern area this year than ever before. Not only are refiners utilizing canal and river waterways, but more large deep-water tankers are in service now than ever before.

Tank Wagon Gasoline

Aside from the momentary expectation of an advance in tank wagon and service station gasoline prices in Standard of New Jersey territory, the situation is without change this week.

Tank wagon sales are running at the highest levels attained thus far in 1930 and there seems little reason to doubt that all previous summer gallonage records will go by the board this year. Preponderance of premium fuel demand over the ordinary U. S. Motor in current buying is reported in a number of instances.

Kerosene

The outside market for 41-43 water white kerosene has broken to 7 cents per gallon in tank car lots at refineries, and leading sellers who have been maintaining a posted price of 7¾ cents per gallon are expected to reduce their price to 7½ to 7¼ cents per gallon at any time now. Warm weather has cut demand further, but jobbers are beginning to submit inquiries for July-August shipments, and consumption of this oil in the summer resort areas may be expected to set in in substantial volume within the next few weeks.

Tank wagon prices are unchanged. The tank wagon market is now experiencing the "in-between" season, with the usual lull between the end of the demand for kerosene for heating and the starting up of buying from the camp and resort areas where kerosene is still largely used for cooking.

Furnace Oil

While this item is furthest from refiners' thoughts, so far as spot sales are concerned, marketers have started contracting for next season and considerable business has already been written.

For deliveries from September 1, 1930, to May 31, 1931, the following prices are being quoted: New York City, No. 1, 8½ to 9 cents per gallon; No. 2, 7 to 7½ cents; No. 3, 7 to 7½ cents; No. 5, 5 to 5¼ cents; No. 6, 4 to 4¼ cents. In New Jersey marketers quote No. 1 at 9½ cents; No. 2 at 7¼ to 8¼ cents; No. 3 at 7¼ to 8¼ cents; and No. 6 at 4¼ cents. In New England territory, the following prices have been made:

	No. 1 (36-40)	No. 2 (32-36)	No. 3 (28-32)
Connecticut	9¼ - 9¾	7¾-8¼	7¾-8¼
Massachusetts	9¼	7¾	7¾
Rhode Island	9¼ - 9¾	7¾-8¼	7¾-8¼
Vermont	10¼-10¾	8¾-9¼	8¾-9¼
New Hampshire	9¾-10¼	8¼-8¾	8¼-8¾
Maine	10 -10½	8½-9	8½-9

All of the above prices are on a tank wagon, delivered, basis.

Paraffin Wax

A bearish stock and consumption report brought about further weakness in paraffin wax this week, and the market slid off fractionally all along the line. Spot 120-122 a.m.p. was traded at 3⅛ cents per pound, down a quarter cent, with 125-127 a.m.p. down an eighth at 3½ cents, 130-132 a.m.p. off an eighth at 4⅛ cents per pound, 133-135 a.m.p. showing a similar decline at 4⅝ cents per pound, and 135-137 a.m.p. down one-eighth cent per pound at 4⅞ cents.

The April report of the Department of Commerce shows for April domestic production of 54,040,000 pounds and for the first four months of the year 218,680,000 pounds, against 223,260,000 pounds in the corresponding months last year. A drop in consumption is shown, however, stocks on hand April 30, 1930, being 241,853,000 pounds, substantially in excess of the 170,687,000 pounds on hand on the same date last year.

With refinery stocks heavy, and relatively little progress made in curtailing production, it is still a buyers' market on all melting points and as is usually the case under these conditions, buying is being held down to hand-to-mouth proportions all along the line. Domestic consuming manufacturers are unwilling to book far in advance, unless they can secure substantial concessions. Refiners, on the other hand, are reluctant to shade current going prices unless forced to liquidate part of their holdings, and the situation is more or less at a deadlock, with the buyers in the saddle.

Gas Oil

The posted price is still maintained at 5¼ cents per gallon for 28 plus recycled oil by the leading factor, but business is rather routine and buyers are not finding it difficult to locate wanted stocks at 4¾ to 5 cents per gallon in tank car lots at the refineries.

Manufactured gas companies in the metropolitan area have greatly lessened their consumption of gas oil during the past fortnight, and continued quiet consumption is looked for during the balance of the summer season.

Lubs

Sharp recessions in cylinder oil prices have developed, and the market is still a nominal affair, and a buyers' market in practically every respect. The situation in the field has reached the point where there is no established market and with sellers it is a case of "what will you pay?" to buyers when confronted with an inquiry. Under these circumstances, conditions peculiar to each deal make the price, and it is a difficult matter to quote a fair average range.

On 600 steam refined cylinder stocks business can be done locally at 27 cents per gallon, which is off 2½ cents per gallon from recent quotations. Other grades show corresponding drops with 635 steam refined at 29 cents per gallon and 650 at 33 cents. The market on 600 Pennsylvania flash is nominal at 37 cents per gallon with 630 flash in similar position at 40 cents per gallon. On 600 Warren E, business can be done locally at 35 cents per gallon, with 600 Oil City E at 34 cents per gallon, representing concessions of 2½ cents per gallon in both instances. Bright stocks are sharing in the general softness, with light 140-150 quoted at 45 cents per gallon and dark at 43 cents, reductions of 2 cents per gallon in both cases, and intimations that even these prices can be shaded by 1 or 2 cents a gallon on a firm bid.

Domestic consuming manufacturers are taking every advantage of the present market situation, and are not extending the market much in the way of buying support. Eastern refiners have evidently overproduced cylinder oils in a large way, and the outlook favors a continued weak market until burdensome surpluses have been liquidated.

Red and pale oils have thus far remained unaffected by the general weakness on other lubs and prices at Bayonne remain unchanged on all qualities. Refiners report a seasonal slackening off in the tank car movement but report that sales are nevertheless well up to average for this season of the year.

Diesel Oil

With maine consumption steadily growing of its own volition, refiners in East Coast areas are devoting more attention to the development of domestic industrial business. Diesel power plants are being used in increasing volume on stationary installations for furnishing light and power in factories and office buildings, and Diesel power is also coming in for wider use for powering equipment used in large-scale construction work.

The market for Diesel oil continues held at $2 per barrel, in bulk, at principal East Coast refinery terminals. Stocks held by refiners in this area are not large, and production is rather nicely balanced with consumption. Some talk of a pending 5 to 10 cents per barrel advance in Diesel oil prices is still heard, but it does not appear probable that any increase will materialize at an early date.

Fuel Oil

Current volume on bunker "C" is running into substantial totals with contract withdrawals by the large marine companies reported as somewhat in excess for that at this time in 1929. Refiners are holding the market steady at $1.15 per barrel, in bulk, at refineries, with the usual charge for lightering alongside within the harbor limits. The Gulf market is reported in strong position, but Mexican fuel oil is reported to have softened a little during the past few weeks.

Industrial consumption of fuel oil is fairly well maintained, and it is reported that the industrial center around Detroit will draw bunker oil from the East Coast within the next few months. This oil, it is reported, will go back as ballast on freighters which will move steel and other manufactured products from Chicago, Detroit, and other industrial centers on the Great Lakes to the Atlantic Coast by vessel.

California Oil Receipts

Receipts of California crude and refined petroleum at Atlantic and Gulf Coast ports for the week ended May 31 totaled 180,000 bbls., a daily average of 25,714 bbls., compared with 387,000 bbls., a daily average of 55,286 bbls. for the previous week and a daily average of 51,500 bbls. for the four weeks ended May 31. Details follow:

(Barrels of 42 Gallons)

At Atlantic Coast Ports—	
Philadelphia	180,000
Total	180,000
Daily average	25,714
At Gulf Coast Ports—	
All ports	None
At Atlantic and Gulf Coast Ports—	
Total	180,000
Daily average	25,714
Daily average four weeks	51,500

All of the week's receipts from California were of gasoline.

Shipments of refined products from California for Gulf and East Coast ports during the week included the following (with identity of owner of tanker moving the oil, where such owner is an oil company):

To New York—65,900 bbls. of Diesel oil on the Tiger.

To Philadelphia—113,700 bbls. of gasoline on the Pacific Sun (Sun Oil Co.) and 116,700 bbls. of gasoline on the Sun (Sun Oil Co.).

To Baltimore—80,300 bbls. of gasoline on the Betterton (Associated Oil Co. of California).

To Port Arthur and Houston—73,500 bbls. of gasoline on the Illinois (The Texas Company).

Gulf Export Market

A cargo of 5,000 tons of gasoline was placed at the Gulf this week at association export prices for shipment to England, but with this exception the market continued in quiet position. There were few inquiries on file among export operators, and it was reported that the bulk of the business was still being moved by the larger companies to their own subsidiary marketing organizations abroad.

Bunker "C" fuel oil was reported held firmly at 85 cents per barrel at Gulf Coast ports, with quiet trading noted.

There was some inquiry for Panuco crude reported in the export market during the week, with sellers reported quoting 60 cents per barrel, f.o.b., plus tax.

One cargo of 10,000 tons of California 400 endpoint gasoline was reported closed during the week, at the posted export basis, with the usual differentials. The cargo is for lifting last week in June or first week in July. Another cargo of the same size is reported being inquired for in the California market.

Operators are showing considerable interest in the outlook for posted export gasoline prices at the Gulf. It has been reported several times that the associa-

tion would revise its schedule upward on motor fuel, and it is now rumored that a fractional drop in the export price for kerosene may develop. No action, however, is contemplated until the next meeting of the export group in New York. In as much as a change in posted price requires the unanimous approval of all companies affiliated with the export combination, many interests here are not inclined to look for any revision in the gasoline schedules on export grades until domestic markets have given further evidence of stability.

Petroleum Exports

The week-end holidays tended to curtail the volume of export shipments of refined products from the local port, and declines were registered in shipments of a number of products.

Export operators report continued quiet locally, with sharp competition on foreign sales. There has been a good niquiry for cased gasoline during the week, but cased kerosene volume has been limited, and movement on other refined products has been likewise confined to small totals.

The following table shows principal exports of refined petroleum products from New York for the past three weeks (all figures in gallons unless otherwise noted):

	Week ended		
	May 31	May 24	May 17
Gasoline	322,000	440,000	180,000
Naphtha	21,000	246,000	686,000
Kerosene	200,000	15,000	19,000
Fuel oil	72,000	10,000	485,000
Lubricating oil	1,153,000	1,240,000	1,219,000
Petroleum, refined	210,000	1,204,000	505,000
	Pounds		
Petrolatum	21,000	11,000	50,000
Paraffin wax	1,153,000	533,000	590,000
Refined	.....	932,000	.....
Scale	535,000	406,000	875,000
Lubricating grease	850,000	1,175,000	316,000

Notwithstanding continued reports of short holdings of refined products in foreign consuming markets, open market business on export shipments locally is still far under expectations for this season of the year. Increasing competition from Russia and other foreign producers of refined products is blamed in part for this situation, while the growing operations of foreign marketing subsidiaries of American oil companies, which draw their supplies direct from the parent companies, has also tended to take considerable of this business out of the open market.

Imports

Imports of crude and refined oils at the principal United States ports for the week ended May 31 totaled 1,515,000 bbls., a daily average of 216,429 bbls., compared with 2,230,000 bbls., a daily average of 318,571 bbls. for the previous week, and a daily average of 283,179 bbls. for the four weeks ended May 31. Details follow:

(Barrels of 42 Gallons)	
At Atlantic Coast Ports—	
Baltimore	131,000
Boston	65,000
New York	835,000
Philadelphia	148,000
Others	286,000
Total	1,465,000
Daily average	209,286
At Gulf Coast Ports—	
New Orleans & Baton Rouge	50,000
Total	50,000
Daily average	7,143
At all United States Ports—	
Total	1,515,000
Daily average	216,429
Daily average four weeks	283,179

Distribution of total imports is as follows:

Crude	1,004,000
Gasoline	246,000
Kerosene	35,000
Fuel oil	230,000

Larger shipments of South American gasoline to Atlantic Coast ports are reported, and a continued heavy movement is looked for during the summer months. Crude production in South America is fairly well balanced and the industry has a pretty definite idea as to just how large imports of crude will be over the balance of 1930. Mexico, however, is increasing operations, and a larger import movement of Mexican crude and fuel oils is looked for later in the year.

LA.-ARK. FIELDS

(Continued from Page 46)

hern in Section 30-16-6, in the southwest corner of proven territory, gauged 35,604,000 feet at 870 pounds from 2,450 feet.

Carterville Area

Three wells in Carterville made 140 bbls. initial, Arkansas Fuel Oil Co.'s No. 4-B Kilgore, NE NW, Section 31-23-11, pumping 15 bbls. from 3,175 feet; No. 6-B Kilgore, NE SW, Section 31-23-11, pumping 20 bbls. from 3,162 feet, and No. 8-B Kilgore, in the same "forty", flowing 100 bbls. from 3,158 feet. No. 3 Peyton in the NW cor. SW Section 30-23-11, was abandoned as a dry hole after a shot at 3,175 feet failed to produce results; total depth 3,285 feet. No. 1 Wilkinson in the NW cor., Section 5-22-11, an old producer in the upper gas horizon, will not be deepened as planned. C. H. French's wildcat in Section 23-21-14, No. 2 Biedenharn, failed to make good on a show of oil at 1,042 feet and was abandoned and H. I. Morgan abandoned No. 4 Wetherbee in Section 21-19-11, 2 miles southwest of Bellevue, at 2,260 feet, corrected depth.

Mooringsport district of Caddo Parish had two producers in Falcon Oil Co.'s No. 3 Muslow, Section 29-20-15, 75 bbls. through tubing from 2,320 feet, and The Texas Company's No. 2 Leonard fee in Section 29-20-15, pumping 50 bbls. from 2,353 feet. Nice wells for this old pool which has been producing for 20 years or more. Pharis and others' No. 1 Oden in Section 19-19-14, Dixie district, was abandoned after standing for several months. Total depth 2,409 feet. Triangle Drilling Co.'s wildcat north of Greenwood gas district, No. 1 Hardy in Section 18-19-16, tested salt water at 2,397 feet and was abandoned.

Sarepta District

Merrick Oil Co. got a 200-bbl. well in No. 2 Slack, SW SE Section 36-23-11, Sarepta district of Webster Parish, from 2,726 feet, but J. S. Martin's No. 1 Taylor in the NW NW of the same section appears to have missed the oil sand entirely. The Merrick well came in with 400 bbls. of fluid and Martin's well topped the gas sand at 2,702 feet and is shut down in a salt water sand at 2,760 feet.

Ark-La Pipe Line Co. has set surface pipe at 190 feet on No. 1 Ashley, a wildcat in Section 15-16-10 in the old Lake Bisteneau gas area of Bienville Parish. Nick Barbare and associates who have been operating for some time in the Waskom gas district of Harrison County, Texas, have made location in the SW SW Section 30-10-9, Catahoula Parish, for No. 1 McGraw and Pace and others have rig up for No. 1 Clarkson in Section 30-12-9, Red River Parish, a mile south of the courthouse in Cushatta and approximately 10 miles southeast of production in the old Bull Bayou district. R. W. Norton's No. 1 Hill, a deep wildcat test in Section 33-23-16 in the NW cor. of Caddo Parish, topped anhydrite at 4,876 feet and is drilling streaks of black limy shale in this formation at 5,060 feet.

Arkansas Completions

Two small, very small, completions were made in Arkansas. Magnolia Petroleum's No. 2 Grayson, Section 21-15-19, Stephens district of Ouachita Parish, pumped 12 bbls. from 2,193 feet, and Malloy & Co.'s No. 4 Goodwin, Section 36-17-16, El Dorado district of Union County, had 50,000 feet of gas at 2,239 feet. Lion Oil Refining Co., perforating casing at 2,735-60 feet in No. 1 Kelly, Section 9-17-14, Champagnolle, tested salt water and will drill deeper, total depth 2,820 feet, where it was completed 14 months ago as a small gas well. Arkansas Natural Gas Co.'s wildcat southwest of Lisbon, No. 1 Burns, in Section 14-18-17, tested salt water and is drilling below 2,650 feet. O. W. Estes' No. 1 Telford in Section 35-17-14, a wildcat 4 miles south of Champagnolle, tested salt water at 2,906 feet in 24 feet of sand and probably will be abandoned. H. L. Hunt's No. 1 Trammell in Section 28-18-12, 6 miles southeast of Urbana activities, got 5,000,000 feet of gas with a spray of salt water on drill stem test at 3,414 feet, cored water sand to 3,414-29 feet and is coring further.

J. R. Crawford has a block of 1,000 acres centering on the corner of Sections 11, 12, 13 and 14-16-16 on which he plans a 4,500-foot test, the first such in Smackover territory in quite a long while—which makes it an interesting proposition once it gets started and passes the known Smackover sand. T. R. Brown has a block of 5,000 acres centering on the corner of Sections 29, 30, 31 and 32-18-22, Columbia County, part of the old Humble block, on which he is obligated to drill to 3,500 feet, but has not made his location. J. K. Wadley of Texarkana has rig up for No. 1 Longino, in Section 32-18-22, Columbia County. In Arkansas River valley wildcat territory, Red Bank Oil Co. tested 1,000,000 feet of gas at 1,317 feet and again at 1,576 feet on No. 1 Edtin, Section 33-10-26, Franklin County, and is drilling around 1,600 feet. Heavener Oil & Gas Co. tested a show of gas at 1,508 feet in No. 1 Reser, Section 34-4-26, Scott County, and is shut down for orders at 1,520 feet.

East Texas

Three small gas wells were completed in East Texas state line territory. Ark-La Pipe Line Co.'s No. 2 Gibson in the J. Womack Survey of Harrison County gauged 5,514,000 feet at 975 pounds, total depth 2,900 feet, and No. 12 Werner, in the E. F. Mitcheson Survey of Panola County, gauged 1,750,000 feet at 3,198 feet, old total depth 3,530 feet, where it was dry. It had previously tested 5,000,000 feet of gas at 3,125-74 feet, but this was cased off to go deeper. Doris Thomason's No. 14 Crenshaw in the B. C. Jordan Survey made 1,000,000 feet of gas from 2,285 feet.

CALIFORNIA FIELDS

(Continued from Page 56)

the present time. This company abandoned No. 1 Howland during the week as a duster at 6,978 feet but this project did not materially affect the outlook of the field as it was located at some distance from present production.

Potrero

The Richfield Oil Co. focused the attention of operators on the Potrero Field of Los Angeles basin this week by completing No. 1 Hassen in the town lot section flowing 2,070 bbls. of clean 40.6 gravity oil and 2,800,000 feet of natural gas per day from 5,752 feet. This well, the fourth substantial completion to be finished in the recently discovered deep zone opened up by the Sunset Pacific Oil Co., came in without being either swabbed or bailed, indicating plenty of kick. Upon completion of this new producer, the Richfield Oil Co. staked three additional locations and already has material on ground for No. 1 Runnels. The substantial production registered by No. 1 Hassen will undoubtedly stimulate additional drilling, especially adjacent to the well. There are 15 strings of tools in operation at the present time with several additional rigs in course of construction. Just previous to discovery of the new deep zone, drilling operations had declined to a few holes as this town lot area had taken on a very unfavorable outlook due to the failure of two upper zones to sustain production. It is a little too early to venture an opinion on just how productive this new zone will be, but based on past experience it should merely be a flash in the pan. The discovery well, No. 2 Inglewood of the Sunset Pacific Oil Co., died a few days ago and preparations are being made to recement the 9-inch water string. The Rosecrans Field of Los Angeles basin is scheduled to register a slight increase in drilling operations during the next few months due to successful extension work of the Barnsdall Oil Co. on the Trust lease. This new drilling will not be of a highly competitive nature but will nevertheless involve the drilling of several holes by the Union and Barnsdall. The former is already working on three drilling projects and has two additional rigs going up. The Barnsdall will be obliged to start another hole on the Trust lease shortly as the extension in time granted by the lessor is just about up.

Long Beach

Completions in the Long Beach Field during the past seven-day period were limited to a few small wells, the best being No. 17-A Marine of the Apex Petroleum, which came in doing 650 bbls. of 29.6 gravity oil initially from 7,739 feet. Dabney & Johnston's No. 51 Signal failed to result in a natural flow upon completion at 7,274 feet. Upon being put on a compressor it showed an initial of 60 bbls. per day, the output being unsatisfactory because of an excessive water content. A check of development work under way at Long Beach indicates the probability that this field will continue to be more or less active from a drilling standpoint for several months to come as there are a considerable number of new wells getting under way to augment present development.

The Santa Fe Springs Field is slowly but surely passing out of the picture from both a production and development standpoint. It will probably be several months before Santa Fe Springs yields its dominating influence in state production to Long Beach in spite of the fact that it is now of secondary importance as far as drilling is concerned. Operators at Santa Fe Springs began retrenching several months ago when it became quite evident that the period of flush production was over with the result that nearly everyone finished drilling wells in the nearest horizon. During the past week the Union Oil Co. finished No. 15 Farwell, a new well flowing 225 bbls. of 32.6 gravity oil initially from the Clarke zone at 7,870 feet. No. 53 Bell, another new well, was only good for 65 bbls. per day from 7,936 feet. Well No. 10 on Mattern Lease No. 3 of The Texas Company was even smaller, as this project was only good for 45 bbls. daily from 7,960 feet.

A.P.I. DIVISION MEMBERSHIPS

The Division of Production, with 590 members, leads the American Petroleum Institute list of division enrollments. The Division of Marketing is second with 397 and the Division of Refining third with 311 enrollments. The total of 1,298 does not represent the entire membership of the institute, but only the enrollment in the three divisions since the divisional plan became effective February 11, 1930. Each member of the institute is eligible to enroll in the division whose activities coincide with his own. It is expected that eventually the entire membership will be enrolled in the three divisions. Chairmen of the divisions are: Production, William N. Davis, Phillips Petroleum Co., Bartlesville, Okla.; refining, W. M. Irish, the Atlantic Refining Co., Philadelphia, Pa.; marketing, Henry M. Dawes, the Pure Oil Co., Chicago, Ill.

INTERNATIONAL OPERATIONS

CHATHAM, Ontario, June 7.—Since completion of the Andian company's pipe line four years ago, enabling the International Petroleum Co. to deliver its production at the seaboard, both production and shipments in Colombia have shown substantial gains. For the three months ending March 31, 1930, the company's production in Colombia and Peru aggregated 7,602,251 bbls. compared with 7,367,288 in the same period last year. Shipments for the same periods were 5,656,127 and 5,539,635 bbls. Larger percentages of the company's output are meanwhile going to crude oil and gasoline markets in South America.

IMPERIAL OIL'S TAXES

CHATHAM, Ontario, June 9.—Canadian governments and municipalities derived in 1929 a sum of $3,216,989 in taxes from Imperial Oil, Ltd., an increase of approximately $572,000 over 1928. Dominion income tax alone amounted to $2,195,136. These amounts do not include taxation paid direct by Imperial subsidiaries.

Natural Gasoline Manufacture

Flue Gas Analysis Important Factor in Efficiency of Plant

By J. P. Savell
Columbian Gasoline Corp.

It is possible by means of a chemical analysis of the flue gases to determine the amount of fuel being wasted, which will serve as a guide to the firemen as to efficiency of his firing methods. If the flue gas analysis show wasteful combustion it is necessary that some change be made in the method of firing for the particular kind of fuel being used.

The fireman should know at all times that the surface of the fuel is free from air holes, and that the depth of the fuel is not such that the proper mixture of oxygen would be imposible, that the proper draught for the thickness of the fuel being used is being maintained, and the condition of the settings as to cracks that might be supplying an excess of air. The amount of carbon dioxide escaping through the chimney is a simple way of measuring the heat laden gases escaping up the chimney and is the index of combustion efficiency.

The principal constituents of flue and chimney gases are: Oxygen, carbon dioxide and carbon monoxide and nitrogen.

The most common method of making a flue gas analysis is by means of the Orsot apparatus, which is briefly described as a wooden case with a slide door on each side, equipped with a graduated Burette for measuring the sample.

Three pipettes, C, D and E, each of these pipettes contain a chemical which will readily absorb certain of the gas constituents of the flue gas. Thus the percentages by volume of each of the constituents can be measured.

It has a filter tube packed with glass

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PHILLIPS TO BUILD 49TH PLANT NEAR HOBBS, N. M.

The Phillips Petroleum Co. has completed plans for the immediate construction of its forty-ninth natural gasoline plant, to be located near Hobbs, Lea County, New Mexico, on the railroad recently opened in connection with the Texas & Pacific system. This is the fourth new Phillips natural gasoline plant to be authorized within the past 60 days. A large acreage has already been contracted comprising both production and potential gas reserve areas.

The plant will be of the absorption type with an initial capacity of 40,000,000 feet of gas daily and will be constructed in units consisting of two distillation units, one a natural well pressure installation, and the necessary compressors will be provided to handle that volume of gas which cannot be processed at natural well pressure. Production will be 50,000 gallons per day. The original installation will be a complete major scale plant, built on the unit plan, permitting the advantage of later multiple unit construction at correspondingly lower costs. The company before the end of the month expects to have a natural gas line of 775,000 gallons daily.

The Phillips Petroleum Utilities Co. which was incorporated to distribute liquefied petroleum gas and co-ordinate the company's other activities in the public utility division, now has 35 city gas plants in which Phillips liquefied petroleum gas is being used or will be used. The number of "Philgas" customers has increased 65 per cent since January 1. New distribution areas have been opened, existing areas enlarged, and prospective areas analyzed. Many nationally known industrial concerns are now using "Philfuels" (liquefied petroleum gas) for manufacturing purposes.

LITTLE CHANGE IN DAILY OUTPUT FIRST FOUR MONTHS OF THIS YEAR

Daily average production of natural gasoline in April was the same as in March, according to the latest report of the Bureau of Mines. The average for the two months was 6,200,000 gallons daily, which is approximately equal to the average for the two previous months of this year. The production of 186,000,000 gallons in April of this year compares with a production of 179,200,000 gallons in April of last year, an increase of 230,000 gallons, or 4 per cent.

Compared to a year ago the government's report for April shows that Oklahoma's production has declined from 57,000,000 gallons to 53,800,000 gallons. The greater part of this decrease comes from the Greater Seminole area, which passed its peak in natural gasoline production last year. The new production in Oklahoma City is expected to offset the Seminole decline before the end of the year so that the total production in the State will be larger.

Texas production in April was 20 per cent greater than in April, 1929. All of this increase came from the new plants in the Panhandle fields. The Panhandle production totaled 20,600,000 gallons, an increase of over 50 per cent when compared to April of last year. The production of other Texas areas has shown little change over the past year. Additional plants are being built in the Panhandle section.

Although the production of most of the plants in the Los Angeles basin is less than it was a year ago, total California output in April was about 3 per cent greater than in April, 1929. This was due to a jump in the production of "rest of State" from 15,600,000 gallons to 25,900,000 gallons. A large part of this increase came from Kettleman Hills and Elwood Fields.

Little change was noted in the production of the smaller states during April. The production of Louisiana decreased from 7,500,000 gallons in March to 6,000,000 gallons in April. The latter production is still greater than in April of last year.

NATURAL GASOLINE PRODUCTION
(Thousands of gallons)

	Production				Stocks end of month	
	Apr. 1930	Mar., 1930	Apr., 1929	Jan.-Apr., 1930	Apr., 1930	Mar., 1929
Appalachian	8,100	9,800	8,200	38,000	4,328	4,462
Illinois, Kentucky, etc.	1,100	1,300	1,200	5,100	530	493
Oklahoma	53,800	53,500	57,000	204,600	11,472	11,291
Oklahoma City	2,600	2,200	....	8,200	479	698
Osage County	6,800	6,800	7,300	25,700	4,060	2,335
Seminole, etc.	25,100	24,200	29,100	94,700	2,248	2,515
Rest of State	19,300	20,300	20,600	76,000	4,685	5,743
Kansas	3,000	2,800	3,000	11,200	969	999
Texas	40,200	40,200	33,400	154,300	9,116	7,583
Panhandle	20,600	20,300	13,300	78,100	3,860	2,812
North Texas	3,600	3,900	4,200	14,500	1,196	1,235
West Central	12,400	12,400	12,600	48,100	3,603	3,071
Rest of State	3,600	3,600	3,300	13,600	457	465
Louisiana	6,000	7,500	4,700	27,200	635	986
Arkansas	2,700	2,700	2,700	10,200	361	291
Rocky Mountain	4,500	4,400	4,000	15,900	598	630
California	66,600	70,000	64,900	275,300	1,782	1,546
Long Beach	14,300	14,800	20,400	58,300	...	...
Ventura Avenue	4,600	4,800	6,200	20,600	...	...
Seal Beach	2,500	2,700	3,800	11,300	...	...
Huntington Beach	2,700	2,800	3,400	12,200	...	...
Santa Fe Springs	16,600	21,400	15,500	80,100	...	...
Rest of State	25,900	23,500	15,600	92,800	...	...
Total	186,000	192,200	179,100	741,800	29,791	28,281
Daily average	6,200	6,200	5,970	6,180	.....	.....
Total (thousands of barrels)	4,428	4,576	4,264	17,662	709	673
Daily average	148	148	142	147	...	...

Construction and Operation

PRODUCTS AND CONTROL*

Quite obviously the character of the products manufactured at a gasoline plant must be controlled through the general office. Market conditions, as well as the composition of the gas and plant equipment, have a bearing as to which grade of gasoline a particular plant is to make. Not only price, but demand must be taken into consideration, particularly if the plant is not equipped for storing over a long period of time. Today it may be more profitable to produce "AA" gasoline, while tomorrow Grade "BB" may be indicated by the price structure. In winter it may be ideal to move "BB," while in the hot months "AA" on account of high transportation losses. The situation must be studied continuously.

It is the function of the general office to investigate the use of by-products and seek new uses for current grades of material, and to establish specifications for these new products. Every company seems to have its own specifications for other than the regular grades of natural gasoline. Once specifications are made, it must see to it that all products meet specifications.

In an ever-changing or increasing personnel, too much attention cannot be given to the instruction of the men attached to the plant laboratories where the primary product control is effected. This means not only the instruction of recruits for these jobs, but the established force as well. The memory becomes dusty and now and again fine points in procedure or method or interpretation are forgotten or altered. On first blush this would seem to be surprising, but it represents the experience in the work-a-day conditions with which the writer is familiar.

While the A.S.T.M. distillation method is quite simple and easy to follow, there is the personal element to contend with. The same applies to the doctor test. It is possible to accomplish a great deal by group study of making distillations and by supervision of laboratory work, which will subject every laboratory operator to the scrutiny of a competent observer from time to time. This will eliminate as many "methods" as there are plants in a given company. It will probably reduce the number of complaints from customers.

Special Products

As a company goes into the special product field, it becomes increasingly important to employ the greatest care in the testing of the products prior to shipping. A great deal of leeway is allowed in the several grades of natural gasoline

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*Fifteenth of a series of articles explaining the inner workings of a natural gasoline organization. The series was prepared by an operator actively engaged in all phases of construction and operation.

MILLER TO CONTINUE AS ASSOCIATION SECRETARY

Ray Miller, who has served as secretary of the Natural Gasoline Association of America for the past year and a half was re-elected at a meeting of the board of directors held at the association's headquarters in Tulsa Tuesday.

The past year has been one of the most

Ray Miller

successful in the history of the association and Mr. Miller's work as active head of the association has been commended by the directors and membership. At the meeting Tuesday several phases of the association's work for the coming year were discussed.

SIGNAL TO BUILD SECOND PLANT IN BIG LAKE POOL

The Signal Gasoline Co., owned jointly by the Group No. 1 Oil Corp., a subsidiary of the Continental Oil Co., and the Signal Oil & Gas Co. of Los Angeles, Calif., is preparing to erect its second casinghead gasoline plant in the Big Lake Pool, Reagan County, Texas.

This plant is to have a total daily capacity of 35,000,000 feet of gas, and will operate chiefly on gas from the deep producers in the field, which has a high gasoline content. Thirty thousand gallons of gasoline per day can be manufactured from the plant which will operate on well pressure.

A company recently was granted a permit by the State of Texas to erect a plant in the Big Lake Pool to manufacture carbon black from the residue gas, but the company apparently has abandoned its plan, and the gas which would have gone to this plant will be sold to some other company for commercial, domestic and industrial purposes. However, the Big Lake Oil Co. is building a small carbon black plant for experimental purposes, and this pool may yet see the erection of a large plant.

Brief Items for Petroleum Refiners

PROSECUTIONS THREATEN GASOLINE BOOTLEGGERS

NEW YORK, June 9.—Following complaints by major oil marketing companies against "bootleg" gasoline sales in New York State, with evasion of tax payments which enable the "bootleggers" to cut prices, Attorney General Hamilton Ward has instituted actions against several small oil companies to recover approximately $100,000 in gasoline taxes.

Reports of gasoline stations which have been backward in paying the tax are in the hands of the attorney general. Distributors found short have been given 20 days to make good, with prosecution as the alternative.

The principal complaint is against the practice of buying gasoline outside of New York State and bringing it in without a report on the part of the wholesaler to state tax officials.

"If allowed to continue, these conditions will get worse," says William J. Carey, in charge of the Motor Fuel Bureau of the State Tax Department. "It is our intention to use every power at our command to stop it. The loopholes which we have found in the law we hope to correct at the next session of the legislature and we will also endeavor to enter into a reciprocal agreement with New Jersey and other adjoining states to stop gasoline bootlegging."

BUILDING NEW PLANT

J. D. Wrather, president of the Delrio Refining Co., Inc., and associates have organized the Navajo Refining Co. and will build a refinery at Kings Mills in Gray County of the Texas Panhandle. The plant will have a capacity of 2,500 bbls. daily and will be operated with Gray County crude oil.

Headquarters of the new company will be in Amarillo. The offices of the Delrio company will also be moved to Amarillo and consolidated. P. H. Hertzog, sales manager of the Delrio company, will also handle the sales of the new plant.

NEW TERMINAL FOR GULF

Gulf Refining Co. is constructing a $500,000 bulk terminal at Rochester, N. Y., to serve as a center for its state barge canal distributing system. The plant is on a 5-acre tract and has five 10,000-bbl. storage tanks, five 50,000-bbl. tanks, pump house and pipe lines. The new plant will be completed and in operation in August.

TANKER CRUDE FROM CHICAGO

CHICAGO, Ill., June 10.—The Canadian tanker, John Irwin, is now loading with crude oil at docks of the Empire Oil & Refining Co., East Chicago, for delivery to Toronto. This is believed to be the first shipment of crude from this city and certainly the first by tanker to a Canadian port.

BEROTH SAILS FOR EUROPE

CHICAGO, June 9.—C. O. Beroth, president of the Acme Petroleum Co., has sailed for Europe. He plans to make a summer's tour of Europe and will not be back in this country until some time in early August.

WILL START CRACKING PLANTS

CHICAGO, June 9.—The Globe Oil & Refining Co. plans to begin the operation of its cracking units at the Lemont, Ill., refinery on June 20. This will materially increase the gasoline capacity of the plant.

PHILLIPS TO HAVE GASOLINE PIPE LINE IN OPERATION BY JANUARY 1

Additional plans of the Phillips Petroleum Co. in connection with its preparations to transport gasoline became known during the past week with the announcement that contracts had been let for the construction of 800 miles of 8-inch line extending from its Borger, Tex., refinery through Wichita, Kans., to Kansas City, Mo., and from the latter point to St. Louis, Mo. The line will be built and operated by the Phillips Pipe Line Co., a wholly owned subsidiary of the parent company. The project will cost approximately $15,000,000.

The line will be the longest ever built for the transportation of gasoline and the second major project to actually start construction work. The first line was that of the Standard Oil Co. of New Jersey, which has changed the crude oil pipe line of the Tuscarora Pipe Line Co., a subsidiary, to transport gasoline. This line extends across New Jersey and Pennsylvania from its Bayway, N. J., refinery to the Ohio-Pennsylvania state line.

The Phillips line will be the first to be built from the Mid-Continent area to northern points, although other projects are under consideration. The line apparently will be used exclusively in the

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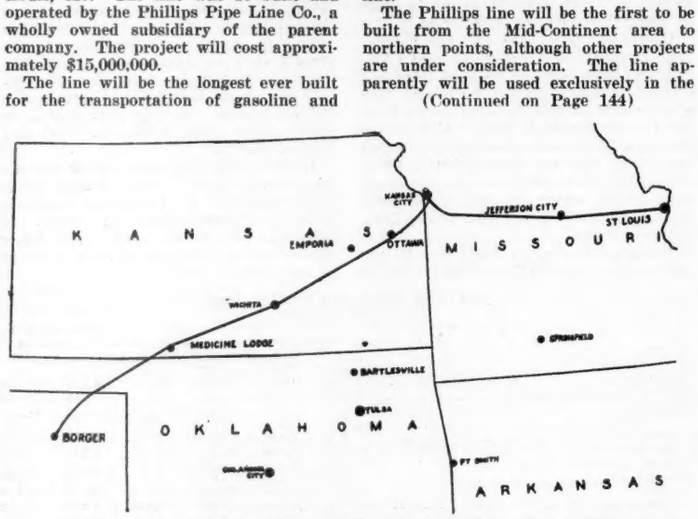


Phillips gasoline line from Borger refinery to St. Louis via Kansas City.

INVOLVE NEW PROCESS IN INFRINGEMENT SUIT

A suit involving the operation of a cracking process commonly known as the de Florez was filed last week against the Gulf Refining Co. by the Universal Oil Products Co., owners of the Dubbs cracking process. The suit was filed at Philadelphia in the United States district court for the eastern district of Pennsylvania, it being alleged that the process is in operation at the Marcus Hook, Pa., refinery of the Gulf company.

The de Florez process is one of the newer vapor type cracking processes, the first commercial unit having been in operation about two years. The process is said to have been developed from a large number of patents some of which are owned by the Gulf company and the remainder by The Texas Company. It was recently announced that another major refining organization would install several units of the process.

The Universal company alleges the infringement of the following patents: No. 1,281,884; No. 1,392,629; No. 1,484,445; No. 1,525,281; No. 1,534,833; No. 1,534,927; No. 1,543,833; No. 1,546,634; No. 1,551,090; No. 1,600,721; No. 1,682,744; and No. 1,690,997.

JOINS CROSS ORGANIZATION

CHICAGO, June 9.—L. A. Stewart who up to June 1 was associated with the Fort Dearborn Refining Co., operating a part of the lubricating plant of the old Inter-Ocean refinery at McCook, Ill., has joined the staff of the Henry H. Cross Co. He will be in charge of sales of lubricating oils in tank car lots. It is intimated that plans are being considered for a material expansion of the lubricating business of the Cross company.

RUMANIA AFTER FRENCH AND BRITISH BUSINESS

NEW YORK, June 9.—Rumania is entering into sharp competition with the United States for gasoline business in Great Britain and France, and cargoes for which tentative inquiries have been put out in the United States are in danger of being lost to Rumania, according to London cables to an export operator here.

British and French buying of refined products has been under normal for this season of the year, the cable stated, and the bulk of this business having been placed in the United States, Rumania refiners have accumulated a burdensome surplus.

Rumania interests are reported meeting United States prices on cargo inquiries and then shading American posted prices by approximately one-quarter cent per gallon. This concession, with the freight differential enjoyed by French and British buyers on Rumania shipments, gives export sellers in Rumania a substantial edge over American sellers.

LEASES MILWAUKEE STATIONS

Negotiations for a 10-year lease of the service station facilities of the Union Oil & Supply Co. of Milwaukee, by the Shell Petroleum Corp., which have been pending for several weeks, have been concluded and the 13 service stations and the bulk depot of the former company, all within the city of Milwaukee, are now operated by Shell starting June 6. The 13 service stations leased by Shell, all of which are of the superservice type, are strategically located to render adequate service to motorists.

The lease held by Shell includes option on four other properties on which additional service stations may be erected at a later date.

POOLS ITS INTEREST IN HYDROGENATION PROCESS

NEW YORK, June 9.—The Royal Dutch Co. has pooled its interests in hydrogenation development with the Standard Oil Co. of New Jersey and I. G. Farbenindustrie, according to cables from Amsterdam quoting Sir Henri Deterding's report at the annual meeting of Royal Dutch. Details concerning the extent of Royal Dutch-Shell's participation in the hydrogenation development of Standard-I. G. are not available here, but it is assumed that Royal Dutch-Shell subsidiaries in this country are eligible as licensees for the Standard-I. G. process, through the licensing company which the two companies have formed to make the process available to other American oil companies.

In referring to the Royal Dutch participation in the hydrogenation activities of the New Jersey Standard and I. G. companies, Sir Henri said: "Frequent reference has been made in previous reports to inventions of processes for the manufacture of synthetic benzine, either from coal or from oil, to which we have given the greatest attention. It has now been decided to pool our interests with those of the Standard-I. G. combine in order to exchange experience and patents in this direction and to work the hydrogenation patents jointly. By combining with other interested parties, some of which are large chemical concerns, all further inventions and improvements will be concentrated in one central body and thus this process, by which high-grade products can be made from greatly varying raw materials, can be applied on the widest possible scale."

SINCLAIR AWARDED PATENT

NEW YORK, June 9.—Sinclair Refining Co. has been awarded a patent on a new method of obtaining alcohols, acids and other products from gas or vapor mixtures. The process employs an acid-resistant oil for absorbing unsaturated hydrocarbons from the gas or vapor, and the resultant extracts, containing alkyl esters, are then treated with sulphur acid under sulphating conditions. The operations are carried out while in solution with acid-resisting oil. The patent was issued June 3.

MAGNOLIA GASOLINE LINE

FORT WORTH, Tex., June 9.—The Magnolia Petroleum Corp. has commenced building its 3-inch gasoline line from Dallas to its two refineries at Fort Worth, a distance of approximately 28 miles, and will run gasoline from the refineries at the latter place to tanks and warehouse at Dallas, from which place it will be distributed by trucks. Magnolia's main offices are at Dallas.

This line was reported over a month ago, but at that time nothing definite was announced, but proposed plans went through, and work on the line has actually started. Such a line will save the expense of hauling by truck and tank car between the two points. It is the first of its kind in this area.

VACUUM TAKES OVER STATIONS

PITTSBURGH, Pa., June 9.—The Lighthouse Oil Co., Inc., has been organized by the Vacuum Oil Co. to take over and operate five local service station companies. The consolidation involves the Aiken Oil Co., Daw Oil & Gas Co., Lighthouse Service Stations, Bishoff Service Stations and the Apfel & Fehl Service Stations. In the event the proposed merger by the Vacuum Oil Co. with the Standard Oil Co. of New York is approved, the new distributing company will become a unit of the merged company.

Texas Oil Men Name Committee to Study New Pipe Line Bill

DALLAS, Tex., June 7.—At a meeting of pipe line and production officials, members of the Mid-Continent Oil & Gas Association and members of the Independent Petroleum Association held here this week, six men were appointed as a board of engineers and economists to study the production and pipe line situation in Texas, and the new pipe line bill which is to go into effect within the next two weeks, and to make recommendations to the Railroad Commission of the State of Texas.

The following men were chosen from their respective organizations to act as the committee: Warner Clark of the California Co., Dallas, and Charles F. Roeser, Fort Worth, representing the Mid-Continent Oil & Gas Association; John R. Suman, of the Humble Oil & Refining Co., and A. M. Donoghue of the Texas Pipe Line Co., both of Houston, representing the pipe line companies; and George Calvert, of Forth Worth, and Rupert Ricker, of San Angelo, representing the Independent Petroleum Association.

Robert R. Penn, Dallas, presided in the absence of J. D. Collett. Mr. Penn said if the producers would work in harmony they would not only save themselves but benefit the State by co-operative methods, but, if they were all divided and did not take advantage of the opportunity presented by the new pipe line law, the Railroad Commission may decide to make the producers a political football.

A resolution was passed asking that importations of crude oil be curtailed in proportion to the curtailments of domestic production.

C. F. Roeser, of Fort Worth, asked the meeting to consider and to make recommendations only on curtailment of flush pools and that all questions of transportation, rates, supply and demand problems and facilities for transportation and storage be left to the discretion of the Railroad Commission.

Meeting at Houston

HOUSTON, Tex., June 9.—The committee of six, consisting of representatives of the Independent Petroleum Association of Texas, the Texas Division of the Mid-Continent Oil & Gas Association and of the representatives of the purchasing companies buying crude oil in Texas, held a conference in Houston at which Robert R. Penn, of Dallas, vice chairman of the curtailment committee of the Mid-Continent Oil & Gas Association, acted as chairman by invitation of the committee.

The committee discussed in detail the provisions and probable effect of the new pipe line or common purchaser act which will come into effect in Texas on June 20.

It was the feeling of the committee that the new law will aid in solving the problems of the producers of crude oil and of the purchasing companies and the committee itself was created as a result of an invitation from the Railroad Commission to the producers of the State to make their suggestions to the commission as to the manner in which the commission should proceed to enforce the new law.

The committee was unanimously agreed that a spirit of co-operation with the Railroad Commission will produce best results for all concerned and confidence was expressed in the commission's fairness and desire to handle the situation equitably for all concerned.

The principal provision of the new law is that the market outlet for crude oil must be distributed among producers without discrimination against any producer and without unjust or unreasonable discrimination between various pools of the State. It was the unanimous decision of the committee that a detailed survey must be made to present all aspects of the crude oil situation in Texas at present and it was decided that the committee will proceed to make such a survey and report as soon as possible its recommendations to this end. In so doing it was decided that the following will be considered as cardinal principles for the guidance of all concerned in the operation of the new law:

1. As far as there is a market for the grades of oil produced, there must be no disturbance of those producing oil pools which come within the class of settled production. In other words, it is necessary that prime consideration be given to those wells which are now producing small amounts of oil, or which are so threatened with water encroachment that they cannot be operated profitably or economically if their production should be curtailed.

2. Such being the case, it is obvious that the committee in its work and the Railroad Commission in its enforcement of the law, must adjust the production from the flush pools of Texas to the available market for such grades of oil and in the interests of conservation.

3. In making such adjustments, all oil acreage proven productive must be allowed to produce its fair share of the oil in each pool according to the demonstrated capacity of the wells on each lease. In other words, it is the law's intention to prevent discrimination and it is the earnest desire of this committee to see that there is no discrimination as between producers in each pool affected by any form of curtailment.

4. It becomes necessary to consider the various oil pools of the State as separate entities and to attempt to adjust the market for the various grades of crude oil equitably as between these pools.

5. These objects cannot be accomplished without a full and fair knowledge of the situation, not only in Texas, but in the nation and in the entire world and for that reason the first step made by this committee will be to instiute a detailed survey as to the market for crude oil and its products and the supply of same within the entire State, with due regard for the national and world-wide market situation.

For this purpose and to assure co-operation between all interests concerned, plans are now being worked out for a permanent organization to keep accurate check on the entire situation, both from statistics and from a standpoint of possible oil production in Texas and to make recommendations from time to time to the Railroad Commission as changes in the situation may arise.

David F. Donoghue of Fort Worth has been appointed technical advisor by the joint committee of six. Mr. Donoghue will have his offices in the Fort Worth National Bank Building and will have charge of the statistical and technical work of the joint committee furnishing data as requested by the Railroad Commission for the enforcement of a new law.

An advisory technical committee was also created at this meeting, including Floyd C. Dodson of San Angelo, chairman; H. J. Struth, and Mr. Finnegan of Houston, statistician for Humble Oil & Refining Co. This committee will meet at the Rice Hotel, Houston, to confer with Mr. Donoghue with regard to the plans for recommendations to be made to the Railroad Commission. The appointment of a fourth member will be made to represent the Panhandle district.

USE OF SEALED BOTTLE FOR OILS DISAPPROVED

WASHINGTON, D. C., June 7.—Disapproval of the use of sealed bottles for dispensing lubricating oil was expressed in a resolution adopted by the National Conference on Weights and Measures, which closed its meeting here yesterday. The conference agreed that the oil is not delivered to customers in the way other packaged commodities are sold, but is transferred to the engine crankcase by station attendants. The practice results in bottles being "in effect" measures, which may be employed "to deceive and perpetrate fraud upon the customer," according to the resolution. The conference "strongly disapproves these bottles and any others for use in dispensing lubricating oils, which do not comply with the code." In addition to supporting this resolution by a unanimous vote, the conference accepted an amendment to the code of specifications for lubricating oil-dispensing containers and measures which specifically outlaws this new bottle.

The conference recommended that its code of specifications and tolerances for grease-making devices become effective January 1, 1931, instead of July 1 this year, the date previously named. Representatives of the oil industry, through Paul E. Hadlick, chief of the division of marketing of the American Petroleum Institute, had objected to the recommendation that the code go into effect next month on the ground that equipment required could not be obtained in a competitive market or in complete lines. They also contended that devices being manufactured at present do not meet the needs of the industry and have been approved by sealers in only a few states.

Newly developed flow meters were demonstrated for the members of the conference. Because the use of this sort of device has increased rapidly during the past year, seven manufacturers of flow meters accepted an invitation to explain the principles involved in the operation of their products and participated in the general demonstration.

CHICAGO POST OFFICE BIDS ON GASOLINE

CHICAGO, June 9.—The Chicago Post Office has received bids for its supply of gasoline for the three months beginning July 1. As usual bids were asked for in tank car and in tank wagon lots. The total quantity is about 300,000 gallons. The bids indicate that the sellers expect low prices to continue through the summer months.

The bids on tank car lots were as follows:

Deep Rock Oil Co., average tank car market, maximum of .0739 cents; Apex Motor Fuel Co., average tank car market, maximum .0725 cents; George C. Peterson Co., .00125 cent below tank car market, maximum .075 cents; Agni Motor Fuel Co., .00125 cent below tank car market, maximum .0775 cents; Lynch-Clarrissey Co., average tank car market, maximum .0725 cents; Service Oil Co., average tank car market, maximum .075 cents; Jewett & Sowers Oil Co., .00125 cent above tank car market, maximum .06625 cents; Seneca Petroleum Co., average tank car market, maximum .0673 cents. In addition the successful bidder will receive one-half cent a gallon for handling charges. Jewett & Sowers are the present holders of the contract and their low maximum prices is the best in this series of bids.

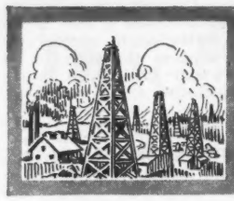
Little attention was paid to the tank wagon bids only three or four companies bidding and their usual offer was 4 cents below the tank wagon market with a maximum of 12 cents. The George C. Peterson Co. bid 4½ cents below the tank wagon market but named a maximum of 14½ cents. The final award will be made from Washington before the end of June and it is expected that Jewett & Sowers will continue to furnish the gasoline to the Chicago Post Office for another quarter.

MR. REESER IN TEXAS

LOS ANGELES, Calif., June 7.—E. B. Reeser, president of the Barnsdall Corp. and of the American Petroleum Institute, left Los Angeles Friday to survey the present oil situation in the Texas fields, and after spending a few days in Tulsa will return to New York.

MEMBERS OF THE A.S.M.E. VISIT AXELSON PLANTS IN LOS ANGELES

About 60 members of the American Society of Mechanical Engineers were guests recently of the Axelson Manufacturing Co. at its plant in Los Angeles. The visitors toured the plant and the various processes of manufacture were demonstrated by A. G. Haglund, works manager. They also visited the adjoining plant of the Axelson Aircraft Engine Co. The day ended with a dinner at the Rio Hondo Country Club, where Clyde Ellwood, vice president in charge of sales, was host.



REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

GASOLINE AND NAPHTHA

	June 10		June 3		May 27	
OKLAHOMA (Group 3)—						
50-52 450 endpoint	.06½	.07	.06¾	.07¼	.06¾	.07¼
56-58 450 endpoint	.06¼	.06¾	.06½	.06¾	.06½	.07
*58-60 437 endpoint (U. S. Motor)	.0725		.07375		.0729	
*60-62 437 endpoint	†.07	.07¼	.07625		†.07	.07½
*60-62 400 endpoint	†.07¼	.07½	.0775		†.07¼	.07½
*64-66 375 endpoint	.08		†.07¼	.07¾	.0812	
68-70 360 endpoint	.07½	.07¾	.07½	.07¾	.07½	.08
64-66 437 endpoint (blend)	.06½	.06¾	.06½	.06¾	.06½	.06¾
NORTH TEXAS—						
56-58 450 endpoint	.06¼	.06½	.06½	.06¾	.06½	.06¾
58-60 450 endpoint	.06¼	.06½	.06¼	.06½	.06½	.06¾
58-60 437 endpoint (U. S. Motor)	.06⅜	.06¾	.06½	.06¾	.06⅝	.06¾
60-62 400 endpoint	.06⅝	.06¾	.06¾	.07	.06¾	.07
64-66 390 endpoint	.06¾	.07	.06⅞	.07⅛	.07	.07¼
64-66 375 endpoint	.07¼	.07½	.07¼	.07½	.07¼	.07½
68-70 360 endpoint	.07½	.07¾	.07½	.07¾	.07½	.07¾
64-66 437 endpoint (blend)	.06½	.06¾	.06½	.06¾	.06½	.06¾
***NORTH LOUISIANA—**						
58-60 437 endpoint (U. S. Motor)	.07⅛	.07¼	.07½	.07¾	.07¾	
***ARKANSAS—**						
58-60 437 endpoint (U. S. Motor)	.07		.07½	.07¾	.07¾	
PENNSYLVANIA—						
52-54 Naphtha	.07½		.07¾		.07¾	
54-56 Naphtha	.08		.08		.08	
58-60 Gasoline	.08¼		.08¼		.08¼	
60 Gasoline	.08¼	.08½	.08½	.08¾	.08½	.08¾
62 Gasoline	.08½		.08½	.08¾	.08½	.09
64 Gasoline	.08⅝	.08¾	.08¾	.09	.08¾	
68-70 350 endpoint gasoline	.09		.09		.09	
CALIFORNIA—						
58-60 437 endpoint (U. S. Motor) domestic	.07	.07½	.07	.07½	.07	.07½
CHICAGO DISTRICT (Based on Group 3)—						
50-52 450 endpoint (Naphtha)	.06¾	.07	.06¾	.07	.06¾	.07
56-58 450 endpoint	.06½	.07	.06½	.07	.06⅝	.07
58-60 437 endpoint (U. S. Motor)	.06½	.07	.06⅝	.07	.06⅝	.07¼
60-62 400 endpoint	.06¾	.07	.07	.07½	.07⅛	.07⅜
64-66 375 endpoint	.07¼	.07½	.07¼	.07½	.07½	.07¾
68-70 360 endpoint	.07½	.07¾	.07½	.07¾	.08	
64-66 437 endpoint (blend)	.06½	.07	.06⅝	.07⅛	.06¾	.07¼
GULF COAST (Export)—						
58-60 U. S. Motor	.08		.08		.08	
60-62 400 endpoint	.09		.09		.09	
61-63 390 endpoint	.09¼		.09¼		.09¼	
64-66 375 endpoint	.09½		.09½		.09½	

*Louisiana, Arkansas, Mississippi and East Texas delivery.

NATURAL GASOLINE

	June 10		June 3		May 27	
OKLAHOMA (Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.06⅛	.06¼	.06⅛	.06¼	.06⅜	.06½
Grade AA, 80-87.9, 375 e.p., rec. 90%	.06		.06		.06⅛	.06¼
Grade B, 76-83.9, 375 e.p., rec. 85%	.05½		.05¾		.06	
Grade BB, 84-92, 375 e.p., rec. 85%	.05¼	.05½	.05¾		.06	
Grade C, 80-92, 375 e.p., rec. 78%	.05¼		.05½		.05¾	.06
NORTH TEXAS—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.06⅛	.06¼	.06⅛		.06⅜	.06½
Grade AA, 80-87.9, 375 e.p., rec. 90%	.06		.06		.06⅛	.06¼
Grade B, 76-83.9, 375 e.p., rec. 85%	.05½		.05¾		.06	
Grade BB, 84-92, 375 e.p., rec. 85%	.05¼	.05½	.05⅝	.05¾	.06	
Grade C, 80-92, 375 e.p., rec. 78%	.05¼	.05½	.05½		.05¾	.06
NORTH LOUISIANA—						
Grade AA, 80-87, 375 e.p., rec. 90%	.06¼	.06⅜	.06¼	.06⅜	.06½	.06⅝
Grade BB, 84-92, 375 e.p., rec. 85%	.05¾	.06	.05⅞	.06	.06⅛	.06¼
Grade C, 80-92, 375 e.p., rec. 78%	.05½	.05¾	.05¾		.06	.06¼
CALIFORNIA—						
75-78 375-390 endpoint	.06¾	.07¾	.06¾	.07¾	.06¾	.07¾
CHICAGO DISTRICT (Based on Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.06⅛	.06¼	.06⅛	.06¼	.06⅜	.06½
Grade AA, 80-87.9, 375 e.p., rec. 90%	.06		.06		.06⅛	.06¼
Grade B, 76-83.9, 375 e.p., rec. 85%	.05¼	.05½	.05¾		.06	
Grade BB, 84-92, 375 e.p., rec. 85%	.05¼	.05½	.05⅝	.05¾	.06	
Grade C, 80-92, 375 e.p., rec. 78%	.05¼		.05½		.05¾	.06

BURNING OIL

	June 10		June 3		May 27	
OKLAHOMA (Group 3)—						
41-43 water white kerosene	.03¾	.04¼	.03⅞	.04¼	.03⅞	.04¼
42-44 water white kerosene	.04¼	.04½	.04¼	.04½	.04¼	.04½
NORTH TEXAS—						
41-43 water white kerosene	.03⅝	.04	.03¾	.04	.03¾	.04
40-42 water white kerosene	.03½	.03¾	.03¾		.03¾	
***NORTH LOUISIANA—**						
41-43 water white kerosene	.04¾		.04¾		.04¾	.05
***ARKANSAS—**						
41-43 water white kerosene	.04¾	.05	.05		.05	.05⅛
PENNSYLVANIA—						
43 Kerosene prime white	.04¾	.05	.05¼		.05¼	
45 Kerosene water white	.05	.05¼	.05½		.05½	
46 Kerosene water white	.05¼		.05½		.05½	
47 Kerosene water white	.05¾		.06		.06	.06¼
300 Mineral Seal	.06½		.06¾		.06¾	
CALIFORNIA—						
38-40 water white Kero. (high burning test)	.04	.04½	.04	.04½	.04	.04½
Engine distillate, 43-44, 445 endpoint	.06	.06½	.06	.06½	.06	.06½
Engine distillate, 42-44, 480 endpoint	.05	.05½	.05	.05½	.05	.05½
CHICAGO DISTRICT (Based on Group 3)—						
41-43 water white kerosene	.03⅞	.04¼	.04	.04¼	.04	.04¼
42-44 water white kerosene	.04¼	.04½	.04½		.04½	
GULF COAST (Export)—						
41-43 prime white	.06		.06		.06	
41-43 water white	.07		.07		.07	

*Louisiana, Arkansas, Mississippi and East Texas delivery.

FUEL OIL

	June 10		June 3		May 27	
OKLAHOMA (Group 3)—						
Below 18 Fuel Oil, per bbl.	.50	.55	.52½	.57½	.52½	.57½
18-22 Fuel Oil, per bbl.	.52½	.55	.55	.60	.55	.60
20-22 Fuel Oil, per bbl.	.57½	.62½	.60	.65	.60	.65
22-26 Fuel Oil, per bbl.	.65	.70	.65	.70	.65	.70
24-26 Fuel Oil, per bbl.	.70	.75	.70	.75	.70	.75
26-30 Fuel Oil, per bbl.	.80	.85	.80	.85	.80	.85
28-30 Fuel Oil, per bbl.	.85	.90	.85	.90	.85	.90
32-36 Gas Oil (industrial)	.02⅛	.02¼	.02⅛	.02¼	.02⅛	.02⅜
32-36 Gas Oil (straw color)	.02¼	.02½	.02¼	.02½	.02¼	.02½
36-38 Distillate	.02¾	.03	.02¾	.03	.02¾	.03
38-40 Straw Distillate	.03	.03⅛	.03	.03⅛	.03	.03⅛
NORTH TEXAS—						
Below 20 Fuel Oil, per bbl.	.50	.55	.50	.55	.50	.55
24-26 Fuel Oil, per bbl.	.60	.65	.60	.65	.65	.70
32-36 Gas Oil (industrial)	.02⅛	.02¼	.02⅛	.02¼	.02⅛	.02¼
38-40 Straw Distillate	.02¾	.03	.02¾	.03	.02¾	.03
***NORTH LOUISIANA—**						
18-20 Fuel Oil, per bbl.	.75	.80	.80	.90	.80	.90
30-32 Gas Oil	.02¾	.03	.02¾	.03	.02¾	.03
***ARKANSAS—**						
33-36 Distillate	.02⅞	.03⅛	.02⅞	.03⅛	.02⅞	.03⅛
30-32 Gas Oil	.02¾	.02⅞	.02¾	.02⅞	.02¾	.02⅞
16-22 Refinery Fuel Oil, per bbl.	.70	.75	.80	.90	.80	.90
GULF COAST (South Texas)—						
Gas Oil	.03¾	.04	.03¾	.04	.03¾	.04
Bunker C Fuel (cargo lots), per bbl.	.80	.90	.80	.90	.80	.90
Bunker C Fuel (small lots)	1.05	1.10	1.05	1.10	1.05	1.10
PENNSYLVANIA—						
30-34 Fuel Oil	.03⅞	.04	.03⅞	.04	.03⅞	.04
36-40 Fuel Oil	.04	.04¼	.04	.04¼	.04	.04¼
CALIFORNIA—						
33-36 Distillate	.02½	.03	.02½	.03	.02½	.03
26-32 Distillate	.01¾	.02	.01¾	.02	.01¾	.02
15-20 Fuel Oil, Bunker (at tidewater)	.60	.65	.60	.65	.60	.65
15-20 Fuel Oil (cargo lots), per bbl.	.55	.65	.55	.65	.55	.65
27 plus Diesel, per bbl.	.80	.90	.80	.90	.80	.90
CHICAGO DISTRICT (Based on Group 3)—						
22-26 Fuel Oil, per bbl.	.65	.70	.65	.70	.70	
18-22 Fuel Oil, per bbl.	.55	.60	.55	.60	.55	.60
28-30 Fuel Oil, per bbl. (zero)	.87½	.95	.87½	.95	.87½	.92½
32-36 Gas Oil (zero)	.02¼	.02⅜	.02¼	.02⅜	.02½	.02⅝
32-36 Gas Oil (industrial)	.02½	.02¾	.02½	.02¾	.02½	.02⅞
36-38 Distillate	.02½	.02¾	.02½	.02¾	.02½	
38-40 Straw Distillate	.02¾	.03	.02¾	.03	.02¾	.03

*Louisiana, Arkansas, Mississippi and East Texas delivery.

LUBRICATING OIL AND WAX

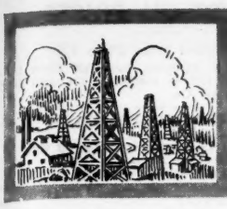
	June 10		June 3		May 27	
OKLAHOMA (Group 3)—						
100 vis., 2 color, 20-25 cold test	.06	.07	.06	.07	.06	.07
100 vis., 3 color, 20-25 cold test	.05½	.06	.05½	.06	.05½	.06
150 vis., 3 color, 20-25 cold test	.08½	.09	.08½	.09	.08½	.09
150 vis., 4 color, 20-25 cold test	.08	.08½	.08	.08½	.08	.08½
180 vis., 3 color, 23-28 cold test	.10	.10½	.10	.10½	.10	.10½
180 vis., 4 color, 23-28 cold test	.09½	.10	.09½	.10	.09½	.10
180 vis., 5 color, 23-28 cold test	.09	.09½	.09	.09½	.09	.09½
200 vis., 3 color, 23-28 cold test	.11½	.12	.11½	.12	.11½	.12
200 vis., 4 color, 23-28 cold test	.11	.11½	.11	.11½	.11	.11½
200 vis., 5 color, 23-28 cold test	.10½	.11	.10½	.11	.10½	.11
240 vis., 3 color, 25-30 cold test	.15	.15½	.15	.15½	.15	.15½
240 vis., 4 color, 25-30 cold test	.14	.14½	.14	.14½	.14	.14½
240 vis., 5 color, 25-30 cold test	.13½	.14	.13½	.14	.13½	.14
280 vis., 3 color, 25-30 cold test	.17½	.18	.17½	.18	.17½	.18
280 vis., 4 color, 25-30 cold test	.16½	.17	.16½	.17	.16½	.17
280 vis., 5 color, 25-30 cold test	.15	.15½	.15	.15½	.15	.15½
Cylinder Stocks:						
600, steam refined, light green	.09	.11	.09	.11	.09	.11
600, steam refined, dark green	.08	.10	.08	.10	.08	.10
190-200 vis., D color, Bright Stock	.41	.42	.41	.42	.41	.42
150-160 vis., D color, Bright Stock	.37		.37		.37	
*150-160 vis., D color, Bright Stock	.35	.36½	.35	.36½	.35	.36½
150-160 vis., E color, Bright Stock	.32	.35	.32	.35	.32	.35
Waxes:						
124-126 White Crude Scale Wax	.02	.02¼	.02⅛	.02⅜	.02⅛	.02⅜

*High cold test. All bright stock prices are for domestic movement.

PENNSYLVANIA—						
34 Neutral	.06¾	.07	.07	.07¼	.07	.07¼
34 Sundebloom	.07¼	.07½	.07¾		.07¾	
36 Miners' Neutral	.06¾	.07	.07½		.07½	
150, 3 color	.14	.14½	.15	.16½	.15	.16½
180, 3 color	.20	.20½	.20½	.21	.20½	.21
200, 3 color	.23½	.24	.25	.26	.25	.26
220, 3 color	.27	.28	.28		.28	
600, steam refined	.18	.20	.20	.21	.20	.21
635, steam refined	.25	.28	.25	.28	.25	.28
650, steam refined	.27	.28	.28		.28	
600, Pennsylvania Flash	.27	.28	.29	.31	.29	.31
630, Pennsylvania Flash	.33	.34	.34	.35	.34	.35
600, E filtered	.26	.27	.27	.28	.27	.28
600, D filtered	.33	.33½	.33	.33½	.33	.33½
Pennsylvania Bright Stocks	.33	.35	.38	.38½	.38	.38½
*122-124 White Crude Scale Wax	.02⅝	.02½	.02½		.02½	
124-126 White Crude Scale Wax	.02⅝		.02⅝		.02⅝	

*At New York.

GULF COAST (South Texas)—						
100 vis., 2-2½ color, pale oil	.06½	.06¾	.06½	.06¾	.06½	.06¾
200 vis., 3 color, pale oil	.09½		.09½		.09½	
300 vis., 3 color, pale oil	.10¾		.10¾		.10¾	
500 vis., 3½ color, pale oil	.12	.12¾	.12	.12¾	.12	.12¾
750 vis., 3½ color, pale oil	.13½		.13½		.13½	
1,200 vis., 3½ color, pale oil	.16		.16		.16	
2,000 vis., 4 color, pale oil	.17		.17		.17	



REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

200 vis., 5-6 color, red oil	.08¾	.09	.08¾	.09	.08¾	.09
300 vis., 5-6 color, red oil	.10	.10¼	.10	.10¼	.10	.10¼
500 vis., 5-6 color, red oil	.11¼		.11¼		.11¼	
750 vis., 5-6 color, red oil	.12¾	.13	.12¾	.13	.12¾	.13
1,200 vis., 5-6 color, red oil	.15		.15		.15	
2,000 vis., 6 plus color, red oil	.17		.17		.17	
200 vis., 2½ color, filtered oil	.11	.12	.11	.12	.11	.12
300 vis., 2½ color, filtered oil	.12	.13	.12	.13	.12	.13
500 vis., 2½ color, filtered oil	.14½	.15	.14½	.15	.14½	.15
750 vis., 2½-3 color, filtered oil	.17	.19	.17	.19	.17	.19
CALIFORNIA—						
130 vis., 2½-3 color	.10¼	.10½	.10¼	.10½	.10¼	.10½
200 vis., 2½-3 color	.11½	.11¾	.11½	.11¾	.11½	.11¾
300 vis., 3-3½ color	.13	.13½	.13	.13½	.13	.13½
350 vis., 3½-4 color	.13½	.13¾	.13½	.13¾	.13½	.13¾
400 vis., 3½-4 color	.15	.15½	.15	.15½	.15	.15½
Red Neutral:						
200 vis., 4½-5 color	.11	.11¼	.11	.11¼	.11	.11¼
300 vis., 5-6 color	.12	.12¼	.12	.12¼	.12	.12¼
400 vis., 5-6 color	.13¼	.14	.13¼	.14	.13¼	.14
500 vis., 4½-5 color	.15¼	.15½	.15¼	.15½	.15¼	.15½
500 vis., 5-6½ color	.15	.15¼	.15	.15¼	.15	.15¼
600 vis., 6½ plus color	.16	.16¼	.16	.16¼	.16	.16¼

Note—Bright stocks are not manufactured commercially on the Pacific Coast.

NEW YORK (BAYONNE) REFINERY PRICES

	June 10		June 3		May 27	
Gasoline, U. S. Motor, 58-60, 437 e.p.	.09	.10	.09	.10	.09	.10
Kerosene, water white, 41-43	.07	.07¼	.07¼	.07¾	.07¼	.07¾
*Fuel Oil, Bunker "C," 14-16, per bbl.	1.15		1.15		1.15	
Fuel Oil, Diesel, 28-30, per bbl.	2.00		2.00		2.00	
Gas Oil, 32-36 gravity	.04¾	.05¼	.04¾	.05¼	.04¾	.05¼
25 pale Paraffin Oil, tank car	.10½		.10½		.10½	
28 pale Paraffin Oil, tank car	.07¼		.07¼		.07¼	
285 red Paraffin Oil, tank car	.12½		.12½		.12½	
250 red Paraffin Oil, tank car	.11½		.11½		.11½	
225 red Paraffin Oil, tank car	.10		.10		.10	
200 red Paraffin Oil, tank car	.09¼		.09¼		.09¼	
Refined Wax:						
120-122 a.m.p., per lb.	.03⅛		.03⅜		.03½	
125-127 a.m.p., per lb.	.03½		.03⅝		.03⅝	
130-132 a.m.p., per lb.	.04⅛		.04¼		.04⅜	
133-135 a.m.p., per lb.	.04⅝		.04¾		.04¾	
135-137 a.m.p., per lb.	.04⅞		.05		.05⅛	
Petrolatum in barrels, in carload lots, per pound:						
Dark Green	.01⅞		.01⅞		.01⅞	
Amber	.03⅜		.03⅜		.03⅜	
Extra Amber	.03½		.03½		.03½	
Cream	.06⅜		.06⅜		.06⅜	
Lily White	.06½		.06½		.06½	
Snow White	.08⅜		.08⅜		.08⅜	

*Lighterage 5.0 cents a barrel extra.

NEW YORK (BAYONNE) EXPORT PRICES

	June 10	June 3	May 27
Kerosene, prime white	.07¾	.07¾	.07¾
Kerosene, water white	.09	.09	.09
600, steam refined cylinder stocks, in bbls.	.27	.29½	.29½
635, steam refined	.29	.31½	.31½
650, steam refined	.33	.35½	.35½
600, Pennsylvania Flash	.37	.38½	.38½
630, Pennsylvania Flash	.40	.41½	.41½
600, Warren E	.35	.37½	.37½
600, Oil City E	.34	.36½	.36½
Light 140-150 Bright Stocks	.45	.47	.47
Dark 140-150 Bright Stocks	.43	.45	.45

LOS ANGELES EXPORT PRICES

	June 10		June 3		May 27	
Kerosene, water white	.03¾	.04¼	.03¾	.04¼	.03¾	.04¼
*U. S. Motor Gasoline, 53-55, 437 e.p.	.06½	.06¾	.06½	.06¾	.06½	.06¾

*Prices on coastwise shipments.

CRUDE OIL PRICES

OKLAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

Oklahoma City—Same as other Mid-Continent price schedule except Empire Pipe Line Co. posted all oil 40 gravity and above at $1.43 on April 10.

Corsicana heavy (April 10, 1930).....$ .80

Other fields.....See gravity table

*Posted by Magnolia Petroleum Co.

TEXAS PANHANDLE

Gray County, Wheeler County and Carson-Hutchinson Counties—See gravity table.

In Noel-McConnell district Prairie Oil & Gas Co. posted April 10, below 30 degrees, 75½ cents, with 5-cent differential upward to 34-34.9, $1.00½, and then a 3-cent differential upward to 44 and above at $1.35½.

WEST TEXAS

Iatan* .....Same as North Texas

Crane-Upton-Crockett, Pecos, Winkler, Mitchell and Ector .....See gravity table, Column 3

Howard and Glasscock.....See gravity table, Column 9

Chalk† (April 10, 1930) .....$ .75

*Includes Westbrook Field. †Posted by Humble Oil & Refining Co.

ARKANSAS-NORTH LOUISIANA

Smackover, below 24 gravity (April 11, 1930) .....$ .90

Smackover, 24 gravity and above (April 11, 1930) 1.05

Carterville, Sarepta and Cotton Valley, below 36 gravity (April 11, 1930)... .85

Bellevue (April 11, 1930) 1.15

Urania (April 11, 1930) ..... .95

East El Dorado (April 11, 1930) ..... .90

Other fields.....See gravity table

Cotton Valley crude above 36 gravity takes same gravity price schedule as shown for North Louisiana and Arkansas crude in Mid-Continent gravity price table.

Note—Smackover, Cotton Valley and Bellevue posted by Standard Oil Co. of Louisiana and Magnolia Petroleum Co.; Urania posted by Louisiana Oil Refining Corp.; East El Dorado posted by Magnolia Petroleum Co.

GULF COAST

Grade A (April 10, 1930)* $1.15

Grade B, 25 degrees and upward .....See gravity table

Jennings, La. (April 10, 1930)†..... 1.10

Refugio (light) .....Same as Grade B

Refugio (heavy) (April 10, 1930)‖ .... .85

Sorrento (April 10, 1930)‡ 1.10

Markham (April 10, 1930)‡‖ ..... .85

High Island (April 10, 1930)‖ ..... .95

*Humble Oil & Refining Co. †Gulf Pipe Line Co. ‡Sun Pipe Line Co. ‖The Texas

(Continued on Page 136)

CRUDE OIL GRAVITY TABLE

Gravity	1 Okla.-Kans.	2 N. C. Texas, No. La., Arkansas	3 Crane, Upton, Ector, Crockett, Winkler, Pecos, Mitchell (West Texas); Lea, N. Mex.	4 Wheeler County (Texas Panhandle)	5 Gray County (Texas Panhandle)	6 Carson and Hutchinson (Texas Panhandle)	7 Salt Creek, Wyo.	8 Stephens, Ark.	9 Howard-Glasscock (West Texas)	10 Grade B Gulf Coast and Refugio, Texas
Below 25	.75	.72	.65	.....	.....	.....	.....	....	.65	1.00
25 to 25.9	.80	.77	.68	.....	.....	.....	.....	....	.68	1.03
26 to 26.9	.85	.82	.71	.....	.....	.....	.....	....	.71	1.06
27 to 27.9	.90	.87	.74	.....	.....	.....	.....	.76	.74	1.09
28 to 28.9	.95	.92	.77	.....	.75½	.....	.....	.81	.76	1.12
29 to 29.9	1.00	.97	.80	.75½	.80½	.....	1.00	.86	.78	1.15
30 to 30.9	1.05	1.02	.83	.80½	.85½	.....	1.05	.91	.80	1.18
31 to 31.9	1.10	1.07	.86	.85½	.90½	.77½	1.10	.96	.82	1.21
32 to 32.9	1.15	1.12	.89	.90½	.95½	.82½	1.15	1.01	.84	1.24
33 to 33.9	1.18½	1.17	.92	.95½	1.00½	.87½	1.18½	....	.86	1.27
34 to 34.9	1.22	1.22	.95	1.00½	1.05½	.92½	1.22	....	.88	1.30
35 to 35.9	1.25½	1.25½	.98	1.04	1.09	.96	1.25½	....	.90	1.33
36 to 36.9	1.29	1.29	1.01	1.07½	1.12½	.99½	1.29	....	.92	1.36
37 to 37.9	1.32½	1.32½	...	1.11	1.16	1.03	1.32½	....	....	1.39
38 to 38.9	1.36	1.36	...	1.14½	1.19½	1.06½	.....	....	....	1.42
39 to 39.9	1.39½	1.39½	...	1.18	1.23	1.10	.....	....	....	1.44
40 to 40.9	1.43	1.43	...	1.21½	1.26½	1.13½	.....	....	....	1.46
41 to 41.9	1.46½	1.46½	...	1.25	1.30	1.17	.....	....	....	1.48
42 to 42.9	1.50	1.50	...	1.28½	1.33½	1.20½	.....	....	....	1.50
43 to 43.9	1.53½	1.53½	...	1.32	1.37	1.24	.....	....	....	1.52
44 and above	1.57	1.57	...	1.35½	1.40½	1.27½	.....	....	....	1.54

Column 1, Note—Above prices posted April 10, 1930, by Carter Oil Co. (beginning at 25 degrees and below), and by the Prairie Oil & Gas Co. and other purchasers beginning at 24 degrees and below, the Magnolia Petroleum alone excepted. The Magnolia on April 10 posted the following prices: Below 26 gravity, 70 cents; 26-26.9, 76 cents; 27-27.9, 82 cents; 28-28.9, 88 cents; 29-29.9, 95 cents; 30-30.9, $1.02. From 31 up and including 44 degrees and above Magnolia followed Carter price schedule, but made its whole schedule apply to its gravity purchases in Kansas, Oklahoma and North Central Texas alike.

Column 2—Humble Oil & Refining Co. posted above prices April 10, 1930, and was followed by all other companies in Texas except Magnolia which posted a different price schedule than Humble up to 33.9 degrees (see note in paragraph just above). The Texas Company posted North Louisiana and Arkansas on April 10, and Standard of Louisiana posted on April 11 followed by other companies, but Magnolia's price schedule begins with below 28 gravity at 87 cents. North Central Texas includes North Texas, Ranger, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Nocona, Moran, and Corsicana light; Arkansas and Louisiana pools include Caddo, Bull Bayou, Crichton, Cotton Valley, above 36 gravity, DeSoto, Haynesville, Homer, El Dorado and Rainbow.

Column 3—Posted by Humble Oil & Refining Co. April 10, 1930, and Magnolia Petroleum Co. April 10, 1930.

Columns 4, 5 and 6—Humble Oil & Refining Co., Prairie Oil & Gas Co., Magnolia Petroleum Co., April 10, 1930.

Column 7—Mid-West Refining Co., April 11. All crude over 37 gravity 1.32½.

Column 8—Louisiana Oil & Refining Co., April 11.

Column 10—Humble Oil & Refining Co., April 10. Magnolia Petroleum Co. posted below 25 gravity 65 cents with 3-cent differential upward to and including 36 and above, which was posted at $1.01.

CALIFORNIA CRUDE OIL PRICES

Standard Oil Co.-Union Oil Co. (Effective March 11, 1930)

Gravity—	1 Seal Beach, Salt Lake, Newport, Summerland, Lawndale, Los Angeles, Fullerton, Richfield, Torrance, Olinda-Brea, Alamitos Heights, Huntington Beach, Signal Hill, Inglewood	2 Whittier, La Habra, Coyote Hills	3 Midway-Sunset, Elk Hills, Lost Hills, Belridge, Buena Vista Hills	4 Montebello	5 Santa Fe Springs (May 17, 1930)	6 Santa Maria, Coalinga	7 Wheeler Ridge, Fruitvale	8 Orcutt, Ventura, Rincon	9 Ventura Avenue (Nov. 5)	10 Elwood Terrace	Athens, Rosecrans, Dominguez
14 to 14.9	.70	.70	.55	.70	.....	.55	.55	.55	.70	.....	.....
15 to 15.9	.70	.70	.55	.70	.....	.55	.55	.55	.70	.....	.....
16 to 16.9	.70	.70	.55	.70	.....	.55	.55	.55	.70	.....	.....
17 to 17.9	.70	.70	.55	.70	.....	.55	.55	.55	.70	.....	.....
18 to 18.9	.76	.76	.62	.71	.....	.62	.62	.65	.76	.....	.....
19 to 19.9	.82	.82	.70	.77	.....	.70	.70	.70	.82	.....	.....
20 to 20.9	.88	.87	.78	.83	.....	.78	.78	.78	.88	.....	.....
21 to 21.9	.94	.93	.86	.90	.50	.86	.86	.90	.91	.....	.....
22 to 22.9	1.00	.98	.94	.97	.50	.94	.94	.95	.94	.....	.....
23 to 23.9	1.07	....	1.02	1.05	.50	1.02	1.02	1.02	1.00	.....	.....
24 to 24.9	1.14	....	1.09	1.11	.50	1.07	1.07	1.10	1.07	.....	1.14
25 to 25.9	1.21	....	1.16	1.17	.50	1.12	1.12	1.16	1.14	.....	1.19
26 to 26.9	1.28	....	1.23	1.23	.50	1.17	1.17	1.26	1.21	.....	1.24
27 to 27.9	1.35	....	1.30	1.29	.50	1.23	1.22	....	1.28	.....	1.29
28 to 28.9	1.42	....	1.35	1.35	.56	1.27	....	....	1.35	.....	1.34
29 to 29.9	1.46	....	1.41	1.38	.62	1.31	....	....	1.39	.....	1.39
30 to 30.9	1.50	....	1.47	1.41	.68	1.35	....	....	1.43	.....	1.45
31 to 31.9	1.55	....	1.53	....	.74	1.39	....	....	1.48	.....	1.51
32 to 32.9	1.60	....	1.59	....	.80	1.43	....	....	1.53	.....	1.57
33 to 33.9	1.65	....	1.65	....	.85	1.47	....	....	1.59	.....	1.64
34 to 34.9	1.70	....	....	....	.90	1.51	....	....	1.65	1.32	1.71
35 to 35.9	1.75	....	....	....	.95	1.55	....	....	1.71	1.39	1.78
36 to 36.9	1.80	....	....	....	.95	....	....	....	....	1.46	1.84
37 to 37.9	1.85	....	....	....	.95	....	....	....	....	1.53	1.90
38 to 38.9	1.90	....	....	....	.95	....	....	....	....	1.60	1.96
39 to 39.9	....	....	....	....	.95	....	....	....	....	1.66	2.02
40 to 40.9	....	....	....	....	....	....	....	....	....	1.72	2.08
41 to 41.9	....	....	....	....	....	....	....	....	....	1.78	2.14
42 to 42.9	....	....	....	....	....	....	....	....	....	1.84	2.20

Kern River, Newhall-McKittrick, Mount Poso and Round Mountain 11 to 13.9 gravity, 50 cents; 14 gravity and above, 55 cents, effective March 11. On March 11, the Union Co. posted Midway-Sunset, Elk Hills, Buena Vista, Lost Hills and Coalinga crude as follows: 11 to 13.9 gravity at 50 cents.

Column 1—Signal Hill, Seal Beach, Huntington Beach and Alamitos Heights crude, 14 to 32.9 gravity, inclusive; Richfield, Olinda-Brea and Fullerton, 14 to 30.9 gravity; Torrance and Inglewood, 14 to 28.9 gravity.

Column 2—Whittier crude, 14 to 22.9 gravity; Coyote Hills, 14 to 30.9 gravity.

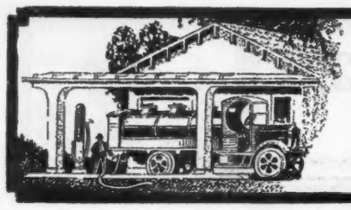
Column 3—Kern River, Newhall and McKittrick, 11 to 19.9 gravity; Midway-Sunset, Buena Vista and Elk Hills, 11 to 33.9 gravity; Lost Hills, 11 to 34.9 gravity; oil below 14 gravity posted at 50 cents.

Column 6—Oil below 14 gravity posted at 45 cents.

Columns 8 and 9—Posted by Union Oil Co. only.

Column 10—Standard posted price f.o.b. tanker.

Kettleman Hills, 55 gravity and above, $1.65 (posted by Standard Oil Co. of California).



TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns June 10

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Chicago†	18.0	19.0	3.0	13.0
Decatur, Ill.	18.2	19.2	3.0	13.1
E. St. Louis	17.4	18.4	3.0	12.2
Joliet	18.4	19.4	3.0	13.3
Peoria	18.2	19.2	3.0	13.1
Quincy	18.2	19.2	3.0	12.9
Davenport, Ia.	18.5	19.5	3.0	13.3
Des Moines	18.5	19.5	3.0	13.3
Keokuk	18.5	19.5	3.0	13.3
Sioux City	18.1	19.1	3.0	13.9
Duluth, Minn.	19.5	20.5	3.0	13.9
Mankato	19.1	20.1	3.0	13.7
Minneapolis	19.2	20.2	3.0	13.9
LaCrosse, Wis.	18.2	19.2	3.0	14.0
Milwaukee	17.1	18.1	3.0	12.9
Madison	17.3	18.3	3.0	13.1
Detroit, Mich.	18.8	19.8	3.0	14.7
Grand Rapids	18.7	19.7	3.0	14.6
Saginaw	18.9	19.9	3.0	14.8
Evansville, Ind.	19.0	20.0	4.0	14.0
Fort Wayne	19.4	20.4	4.0	14.4
Indianapolis	19.2	20.2	4.0	14.2
South Bend	19.4	20.4	4.0	14.4
Fargo, N. D.	20.9	21.9	3.0	15.9
Huron, S. D.	20.2	21.2	4.0	14.7
Sioux Falls	19.1	20.1	4.0	14.4
K. C., Mo.*	17.9	18.9	3.0	11.6
Springfield*	17.8	18.8	3.0	12.5
St. Louis*	16.9	17.9	2.5	12.3
St. Joseph	17.5	18.6	2.0	13.2
Wichita, Kans.	16.8	15.8	3.0	11.8
Bartlesville, Ok.	17.5	20.5	4.0	11.5

*State tax 2 cents; remainder city tax.
†Effective June 3, discounts on Q.D.A. in Chicago district 4 cents off service station price on purchases of 500 gallons or more per month and 5 cents on purchases of 1,000 gallons or more per month.

The following quantity discounts from the service station price are allowed on monthly sales of gasoline; 2,000 gallons or less, 2 cents; more than 2,000 and less than 6,000 gallons, 2½ cents; more than 6,000 gallons, 3 cents; 75,000 gallons or more, 4½ cents. Discounts are allowed each month and they are not cumulative. Delivery tickets showing date and quantity delivered must be sent to the seller before the tenth of the month to secure the discount on the previous month's purchases.

NAPHTHA

	Tank wagon	Tank car
Oleum spirits	14.7	10.0
V. M. & P. naphtha	16.7	12.0
Cleaner's naphtha	17.0	14.9
Stanisol	17.0	15.4

Tank wagon prices f.o.b. Chicago; tank car prices f.o.b. Whiting.

STANOLIND FURNACE OIL IN CHICAGO

Less than 100 gallons	9.0
100 to 349 gallons	8.0
350 gallons or more	7.5

Note—Outside Chicago furnace oil discount of 1 cent per gallon is given on deliveries of 100 to 349 gallons and 1½ cents on deliveries of 350 gallons or more.

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Dallas, Tex.	14.0	15.0	4.0	12.0
Fort Worth	14.0	17.0	4.0	12.0
Houston	15.0	19.0	4.0	11.0
San Antonio	14.0	18.0	4.0	11.0
El Paso	16.0	20.0	4.0	13.0
Texarkana	14.0	15.0	4.0	12.0
Muskogee*	16.0	19.0	4.0	9.0
Okla. City*	15.0	18.0	4.0	10.0
Tulsa*	16.0	20.0	4.0	10.0
Ft. Smith, Ark.	14.0	15.0	5.0	12.0
Little Rock	18.0	19.0	5.0	13.0

*Gasoline tank wagon price to dealers 2 cents under posted tank wagon.

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Denver, Colo.	16.0	19.0	4.0	15.5
Pueblo	18.0	21.0	4.0	15.5
Grand Junction	23.0	26.0	4.0	19.0
Casper, Wyo.	19.0	22.0	4.0	14.0
Cheyenne	20.5	23.5	4.0	15.5
Butte, Mont.	24.5	27.5	5.0	20.0
Helena	24.5	27.5	5.0	*20.0
Salt Lake, Utah	20.0	23.0	3.5	17.0
Albu'que, N. M.	21.0	24.0	5.0	15.0
Boise, Idaho	23.5	26.5	5.0	19.0
Twin Falls	23.5	27.5	5.0	19.0

PENNSYLVANIA—DELAWARE AND PART NEW ENGLAND

The Atlantic Refining Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Pittsburgh, Pa.	16.0	*22.0	...	13.0
Philadelphia	16.0	*22.0	...	13.0
Scranton	16.0	*22.0	...	13.0
Allentown	16.0	*22.0	...	13.0
Altoona	16.0	*22.0	...	13.0
Erie	15.0	*19.0	...	13.0
Dover, Del.	19.0	21.0	3.0	13.0
Wilmington	19.0	21.0	3.0	13.0
Springf'd, Mass.	17.5	19.5	2.0	12.5
Worcester	17.3	19.3	2.0	12.3
Boston	16.5	18.5	2.0	11.5
Providence, R.I.	16.7	18.7	2.0	11.7
Hartford, Conn.	17.5	19.5	2.0	12.5
New Haven	17.6	19.6	2.0	12.6

*Includes tax of 4 cents. Pennsylvania tax is collected by the dealer and paid by him direct to the State. The Atlantic Refining Co. recognizes a 2-cent per gallon discount on gasoline from its posted tank wagon markets on sales to dealers for purposes of resale. The Atlantic Refining Co. also recognizes a maximum discount of 2 cents per gallon on gasoline to commercial accounts under contract for one year.

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Albany, N. Y.	17.6	19.6	2.0	15.6
New York*	16.3	18.3	2.0	14.3
Buffalo	17.8	19.8	2.0	14.8
Rochester	18.0	20.0	2.0	14.0
Syracuse	18.8	20.8	2.0	14.8
Boston, Mass.	16.5	18.5	2.0	13.5
Augusta, Me.	19.8	21.8	4.0	14.8
Manch't'r, N. H.	19.4	21.4	4.0	14.4
Burlington, Vt.	19.6	21.6	4.0	15.3

*Prices in steel barrels.

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Atlanta, Ga.	21.0	23.0	6.0	15.5
Augusta	20.0	22.0	6.0	15.5
Macon	22.0	24.0	6.0	14.0
Savannah	21.0	23.0	6.0	14.0
Birm'ham, Ala.	20.0	22.0	5.0	14.5
Mobile	18.0	18.0	4.0	13.5
Montgomery	21.0	23.0	4.0	15.0
Clarks'le, Miss.	19.0	21.0	5.0	12.5
Jackson	20.0	22.0	5.0	13.0
Natchez	19.5	21.5	5.0	13.0
Gulfport	21.0	23.5	5.0	13.0
Vicksburg	19.5	21.5	5.0	13.0
Jack'ville, Fla.	21.0	23.0	6.0	14.0
Miami	22.0	24.0	6.0	14.0
Pensacola	19.0	21.0	6.0	13.5
Tampa	21.0	23.0	5.0	13.0
Lexington, Ky.	19.0	20.0	5.0	14.5
Covington	21.0	22.0	5.0	14.5
Louisville	20.0	22.0	5.0	13.0
Ashland	19.0	21.0	5.0	15.0
Catlettsburg	20.0	21.0	5.0	15.0

In addition to the state tax of 4 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and one-half cent on kerosene. Kerosene prices in Georgia include 1-cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene and one-fourth cent on gasoline. To Pensacola, Birmingham and Mobile state taxes add 1-cent city levy. To Gulfport state tax add privilege tax of 2 cents.

Effective April 2, price to dealers 2 cents under posted tank wagon price.

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Atlantic City	16.5	18.5	2.0	13.5
Newark, N. J.	15.5	17.5	2.0	12.5
Annapolis, Md.	18.0	20.0	4.0	13.0
Baltimore	17.2	19.2	4.0	10.5
Cumberland	19.0	21.0	4.0	14.0
Washington	15.7	17.7	2.0	12.7
Danville, Va.	19.8	21.8	5.0	13.8
Norfolk	18.3	20.3	5.0	13.0
Petersburg	19.3	21.3	5.0	13.3
Roanoke	20.0	21.0	5.0	14.0
Richmond	18.7	20.7	5.0	12.7
Charles'n, W.Va.	18.5	20.5	4.0	13.5
Keyser	19.1	21.1	4.0	14.1
Parkersburg	17.2	19.2	4.0	11.2
Wheeling	18.4	20.4	4.0	12.4
Charlotte, N. C.	20.3	22.3	5.0	14.3
Hickory	20.8	22.8	5.0	14.8
Mt. Airy	20.5	22.5	5.0	14.5
Salisbury	20.7	22.7	5.0	14.7
Charleston, S.C.	19.3	21.3	6.0	12.3
Columbia	21.2	23.2	6.0	14.2

A 2-cent per gallon discount off the gasoline tank wagon price is offered to dealers.

PACIFIC COAST TERRITORY

Standard Oil Co. (California)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
San Francisco	22.0	23.0	3.0	15.5
Los Angeles	21.5	22.5	3.0	15.5
Reno, Nev.	27.0	28.0	4.0	19.0
Portland, Ore.	23.5	23.5	4.0	16.5
Seattle, Wash.	22.5	22.5	3.0	16.5
Tacoma	22.5	23.5	3.0	16.5
Spokane	26.5	26.5	3.0	20.5
Phoenix, Ariz.	17.0	23.0	4.0	20.0

Above prices are at company's plant or depots as company does not operate stations. A 6-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where discount is 1 cent.

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Omaha	19.25	21.25	4.0	13.25
McCook	19.75	22.75	4.0	14.75
Norfolk	19.75	21.75	4.0	13.75
N. Platte	20.75	22.75	4.0	14.50
Scottsbluff	20.75	22.75	4.0	14.25

OHIO

Standard Oil Co. (Ohio)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
Ohio points*	20.0	21.0	4.0	†14.0

*Dealers and commercial accounts 2 cents under tank wagon.
†Service station price 16 cents.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax	tank wagon
N. Orleans, La.*	16.0	16.0	5.0	12.0
Baton Rouge	16.0	17.0	4.0	14.0
Alexandria	17.0	17.0	4.0	14.0
Lafayette*	18.0	20.0	5.0	14.0
Lake Charles*	16.0	16.0	5.0	14.0
Shreveport	14.0	18.0	4.0	14.0
Knoxv'le, Tenn.	20.0	22.0	5.0	16.0
Memphis	18.0	20.0	5.0	12.5
Chattanooga	20.0	22.0	5.0	16.0
Nashville	19.0	21.0	5.0	16.0
Bristol	20.0	22.0	5.0	14.0
Lt. Rock, Ark.	18.0	19.0	5.0	13.0

*Includes city tax of 1 cent. Louisiana kerosene prices include 1-cent state tax. New Orleans kerosene price also includes 1-cent city tax.

TANK WAGON CHANGES

Standard Oil Co. of Kentucky advanced gasoline tank wagon and service station prices 1 cent at Covington, Ky.

Continental Oil Co., effective April 4, reduced kerosene tank wagon price 2 cents at Albuquerque, N. Mex. Same company reduced gasoline tank wagon and service station prices 1 cent at Denver, Colo.

Magnolia Petroleum Co. reduced gasoline tank wagon and service station prices 2 cents at Fort Worth, Tex., with 1-cent reduction at San Antonio. Same company reduced gasoline tank wagon and service station price 1 cent at Oklahoma City, Okla.

CRUDE OIL PRICE CHANGES

The Pure Oil Co. advanced the price of Mount Pleasant, Mich., crude oil from $1.35 per barrel to $1.55 per barrel.

The average sales price of Panuco, Mexico, crude during May was 60 cents per barrel, f.o.b. ship, exclusive of taxes and bar dues.

CRUDE OIL PRICES

(Continued from Page 135)

Pipe Line Co. ‖Posted by Gulf Pipe Line Co. ‖Humble Oil & Refining Co. and Gulf Coast Pipe Line Co.

ROCKY MOUNTAIN STATES

Ohio Oil Co.-Midwest Refining Co.
(Effective April 11, 1930)

Hex (Feb. 15, 1930):	
33 gravity and above	$ .87
Under 33 gravity	.64
Dutton Creek (Feb. 15, 1930)	1.25
Rock Creek, Wyo.	1.35
Salt Creek	See gravity table
Big Muddy	1.33
Grass Creek, heavy (July 27, 1928)	.90
Grass Creek, light	1.55
Mule Creek (May 21, 1929)	1.20
Elk Basin	1.55
Lance Creek	1.62
Poison Spider (March 14, 1927)	1.00
Notches (March 14, 1927)	.65
Rex Lake (February 22)	1.10
Osage	1.62
Lost Soldier (contract, May 23)	1.05
Hamilton Dome (March 14, 1927)	.85
Greybull (February 15, 1930)	1.45
Four Bear (May 21, 1929)	.85
Cat Creek	1.55
Pondera (Montana) (Feb. 15, 1930)	1.80
Sunburst (Montana) (Feb. 15, 1930)	1.85
Torchlight (May 21, 1929)	1.65
Hogback (Feb. 15, 1930)	1.40
Artesia (New Mexico)	1.05
Lea County	See gravity table

Note—Salt Creek, Osage, Cat Creek, Greybull and Hogback posted by Midwest Refining Co., and the remainder by the Ohio Oil Co. Both companies posted Grass Creek light and Elk Basin.

SOUTH CENTRAL AND SOUTHWEST TEXAS

Darst Creek (April 10, 1930)*	$1.15
Luling (April 10, 1930)	.85
Mirando (April 10, 1930)†	.85
Pettus (April 10, 1930)‖	1.40
Salt Flat (April 10, 1930)‖	1.15
Thrall‡	
Lytton Springs (Lockhart)	See gravity table
Somerset (April 10, 1930):	
Below 33 gravity	$1.15
33 to 33.9 gravity	1.17
34 to 34.9 gravity	1.19
35 to 35.9 gravity	1.21
36 to 36.9 gravity	1.23
37 to 37.9 gravity	1.25
38 gravity and above	1.27

*Posted by Humble Oil & Refining Co. and Magnolia Petroleum Co. †Magnolia Petroleum Co., Humble Oil & Refining Co., Crown Central Pipe Line Co. ‡Thrall prices same as North Central Texas less 19½ cents per cwt. freight. ‖Humble Oil & Refining Co

EASTERN STATES

Joseph Seep Purchasing Agency
(Effective May 16, 1930)

Seep Purchasing Agency withdrew from Bradford and Allegany Fields as a purchaser on May 16.

Penna Grade Oil in National Transit Lines (Pennsylvania)	2.30
Penna Grade Oil in Southwest Pennsylvania Lines (Pennsylvania)	2.25
Penna Grade Oil in Eureka Pipe Line Lines (West Virginia)	2.15
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	1.95
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia) (May 22, 1929)	1.75
Corning 35 cent Grade Oil in Buckeye Pipe Line Co.'s Lines (Feb. 17, 1930)	1.75
Somerset Oil in Eureka Pipe Line Lines (Kentucky) (April 11, 1930)	1.31
Somerset Oil in Cumberland Pipe Line Lines (Kentucky) (April 11, 1930)	1.47
Ragland Grade Oil in Cumberland Pipe Line Lines (Kentucky) (Jan. 29)	.80
Wayne District Oil in Cumberland Pipe Lines (April 11, 1930)	1.34

Tide Water Pipe Co.

Bradford district (June 2)	$2.40
Allegany district (June 2)	2.40

MIDDLE WESTERN STATES

Ohio Oil Co.
(Effective April 11, 1930)

Lima	$1.70
Wooster	1.80
Illinois	1.65
Indiana	1.47
Princeton	1.65
Plymouth	1.33
Waterloo (Nov. 17, 1926)	1.35
Western Kentucky	1.55
Midland, Mich.* (June 5)	1.55
Dundee, Mich. (April 16)‖	
	Same as Mid-Continent gravity scale
Upper and Lower Traverse sands, Mich. (April 16)‖	
	Same as Mid-Continent gravity scale
Saginaw, Mich. (April 11)†	
	Same as Mid-Continent gravity scale
Cumberland, Clay, Barren, Clinton and Monroe Counties, Kentucky (March 15)‡	1.50
Oil in line in Stoll Oil Refinery Co. in Oil City, Ky. (April 18)‖	1.46
Oil Springs (Canada) (April 11, 1930)†	2.17
Petrolia (Canada) (April 11, 1930)†	2.14

*Posted by Pure Oil Co. †Posted by Sun Oil Co. ‡Posted by Paragon Development Co. ‖Posted by Stoll Oil Refining Co. ¶Posted by Imperial Oil Co., Ltd. ‖Posted by Standard of Indiana for boat shipment. Local refiners posted Mid-Continent prices on April 11.

MEXICAN CRUDE

Panuco*	$ .60

*F.o.b. ship, based on May transactions.

SINCLAIR THREE-GAS SERVICE

In these days of keen competition with so many different engines and so many different motoring conditions why not let your customers choose their fuel from three different types and let each one get the kind of gasoline that is *just right for his own car and his style of driving?* Here is Sinclair Aircraft Gasoline, the *Ace* of high test gasolines, to give quick start and lightning getaway—brilliant, flashy performance in traffic or in the open. It gets away like a rocket! Sinclair Aircraft is the Ace of high test gasolines because it is specially manufactured at Sinclair Refineries, meeting the requirements of the Federal Specifications Board for Aviation Gasoline—domestic grade—and gives sustained power. Due to its careful fractionation it is free from dissolved gases which cause gas locks, uneven distribution, galloping and engine balk . . . Sinclair H-C Gasoline delivers high compression performance and stops knocks, even on a tough hill. It's *all* gasoline—nothing added. And if a motorist prefers to pay three cents less per gallon—Sinclair Regular Gasoline has economy and mileage, with plenty of eager power. The quality gasoline at a popular price! Why not be the dealer in your community to offer motorists this progressive gasoline service?

SINCLAIR REFINING COMPANY, INC., 45 Nassau St., New York—*Atlanta, Chicago, Houston, Kansas City*

Jersey Co. Reports Excellent Sales Gain

Earnings Somewhat Affected by Poor Markets During First Quarter. Ethyl Sales Steadily Mounting. Hydrogenation Progress

NEW YORK, June 7.—Retiring directors of Standard Oil Co. (New Jersey) were re-elected at a routine annual stockholders' meeting held this week in Newark, N. J. S. B. Hunt, vice president and treasurer of the company, presided over the meeting.

While the Jersey company has experienced an "excellent gain in volume of sales throughout the world" thus far in 1930, Mr. Hunt stated, earnings have been somewhat affected by the poor markets during the first quarter.

Ethyl Gasoline Corp., of which Standard of New Jersey is a joint owner with General Motors, is showing increasing importance as a source of revenue, with its sales steadily mounting, said Mr. Hunt.

Development of hydrogenation is being carried forward by Standard of New Jersey, Mr. Hunt stated, with the hydrogenation unit at Bayway, N. J., expected to start operations in August of this year and the Humble plant at Baytown, Tex., and the Standard of Louisiana plant at Baton Rouge, La., both scheduled to go into operation during 1931.

A number of important oil companies have signified their intention of applying for use of the hydrogenation process controlled by Standard-I.G., said Mr. Hunt.

Denial was made of any pending stock dividend.

S. O. Kentucky

Standard Oil Co. of Kentucky declared an extra dividend of 20 cents and the regular quarterly dividend of 40 cents, both payable June 30 to stock of record June 16.

Atlantic-Pacific Oil

Announcement has been made that a group headed by John Hays Hammond and Harris Hammond, and reported to include the Fisher Brothers of Detroit, had obtained control of the Atlantic-Pacific Oil Exploration Co. through the purchase of 1,212,300 of the 2,000,000 shares. The company controls the Atlantic Exploration Co., the Pacific Exploration Co. and the Rocky Mountain Pacific Oil Co., now operating in Wyoming, Montana and Michigan. In Wyoming the Atlantic-Pacific reports it has 2,137 acres in the Elk Basin district, 1,520 acres in Grass Creek, 1,600 acres in Sherard County, 4,600 acres in Hidden Dome, 10,190 acres in the Bud Kimball tract, 2,175 acres in Dallas Dome and 1,805 acres in the Derby Dome. The Montana properties consist of 1,820 acres in the Kevin-Sunburst Field, 160 acres in Bannatyne, and 50,000 acres in the Baker Glendive gas area. In Michigan the company's holdings consist of 45,000 acres in Muskegon and Huron Counties.

Among the principal holdings of John Hays Hammond and his associates, in addition to the Atlantic-Pacific Oil Co., is the Mexican Seaboard Oil Corp. The Atlantic-Pacific company was organized early in 1929, and has extended its holdings until it now controls 121,115 acres.

Officers of the company are: Herbert Stokes, president; John Gallois, vice president, and W. L. Pratt, secretary and treasurer. Directors include: R. C. M. Peirce, associated with Mexican Seaboard Oil Co.; W. L. Pratt, treasurer of Dominguez Oil Fields Co.; C. V. Stehle, associated with John Hays Hammond and Harris Hammond Oil Enterprises; Herbert Stokes, president Rocky Mountain Pacific Oil Co., and R. M. F. Townsend, geologist for Mexican Seaboard Oil Co., all of New York City. Dr. Ralph Arnold is consultant geologist.

Twenty Representative Stocks

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange and New York Curb, based on closing quotations for Saturday, was as follows:

Jan. 8	48.56	Mar. 26	51.55
Jan. 15	47.13	Apr. 2	53.26
Jan. 22	47.13	Apr. 9	52.04
Jan. 29	47.46	Apr. 16	53.39
Feb. 5	48.13	Apr. 23	53.70
Feb. 12	47.49	Apr. 30	50.23
Feb. 19	45.85	May 7	51.67
Feb. 26	46.71	May 14	49.71
Mar. 5	46.79	May 21	50.98
Mar. 12	48.30	May 28	50.94
Mar. 19	51.00		

Amerada Corp.

Leroy W. Baldwin, president of the Empire Trust Co., New York, and H. W. Masters, American representatives of the

TRANSACTIONS IN OIL SHARES ON NEW YORK STOCK EXCHANGE

Quotations Compiled by Francis, Bro. & Co., Members of the New York Stock Exchange and Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

1930 High	1930 Low	Week ended June 4 Sales	High	Low	Close	Stocks—		Outstanding capital	Par value	Div. rate	Last paid	1927 High	1927 Low	1928 High	1928 Low	1929 High	1929 Low
31½	18	16,200	31¼	30⅜	30½	Amerada Corp.	(sh)	922,075	N.P.	50cQ	1-31-30	37⅝	27⅝	43⅞	27⅛	42⅝	17½
37	20½	100	25¼	25¼	25¼	American Republic Corp.	(sh)	209,180	N.P.	.....	3-20-29	82½	35⅛	85	51⅛	64¾	12½
51	32½	40	51	51	51	Associated Oil		$57,260,300	$25	50cQ	12-31-29	50¼	35	53⅜	37½	47¼	34½
51⅜	36¼	3,400	43⅝	42⅝	43⅜	Atlantic Refining		$66,763,775	$25	25cQ	12-16-29	131⅜	104	66⅜	50	77⅛	30
34	20⅛	3,500	27½	26½	27⅛	Barnsdall Corp.		$56,546,600	$25	50cQ	12- 7-29	35½	20¾	53	20	49⅛	20
30½	19½	8,700	27½	26¼	27	Continental Oil of Delaware	(sh)	4,741,554	N.P.	.....	3-31-27	..	..	..	..	47⅛	18
71⅛	49⅛	2,700	60½	59	60¼	General Asphalt	(sh)	413,333	N.P.	50cQ	.....	96¾	65	94⅞	68	94⅜	42¼
116⅞	52¼	33,000	108¾	102	108	Houston Oil		$24,968,600	$100	.....	.....	175¾	60½	167	79	109	26
32	20¼	2,400	26⅛	25⅛	25⅛	Independent Oil & Gas	(sh)	1,362,295	N.P.	50cQ	1-31-30	32¾	17⅝	38⅜	21¾	39⅜	17¾
28⅜	16	5,400	18⅜	18	18	Indian Refining		$12,565,070	$10	.....	5-31-24	12⅛	7⅝	39⅝	9	53	13⅛
26½	21¼	200	24½	24½	24½	Lago Oil & Transport	(sh)	3,992,122	N.P.	.....	5- 1-27	37¾	20½	39⅛	27⅜	38⅜	16½
12	8	700	10	9½	10	Louisiana Oil Refining	(sh)	1,190,063	N.P.	.....	.....	18⅛	10	19¾	9⅜	18	7
10⅜	5⅛	200	7¼	7	7¼	Maracaibo Oil	(sh)	330,000	N.P.	.....	.....	22¾	12	25½	12½	18½	5⅛
37	16⅛	10,000	30¾	29	29⅞	Mexican Seaboard	(sh)	1,244,383	N.P.	.....	12-15-20	9¼	3	72	4⅝	69⅜	9¼
33	23½	1,400	28⅝	27⅞	28¼	Mid-Continent Petroleum	(sh)	1,857,912	N.P.	50cQ	12-15-29	39⅜	25½	44½	25⅛	39⅞	22⅛
2½	⅞	100	1¼	1¼	1¼	Middle States, ctfs.		$23,736,130	$10	.....	7- 1-23	3¾	1⅝	7⅜	2⅜	5⅛	¾
64¼	51⅝	200	60	60	60	Pan American P. & T.		$50,084,700	$50	.....	10-20-27	65⅞	40⅛	54⅞	38¼	69	40½
67½	50½	1,200	63⅜	62½	63⅜	Pan American P. & T. "B"		$121,110,650	$50	.....	11-15-24	66⅜	40¼	58⅞	37¾	69¼	40½
		No sales.				Pan American Western B		$400,000	N.P.	.....	1-30-27	37⅞	16¾	28⅜	15½	18½	13⅝
12¾	4⅛	300	11	11	11	Panhandle P. & R.	(sh)	199,370	N.P.	.....	.....	18⅞	8	21¾	11½	15¼	3
80	47½	200	74½	72⅛	74½	Panhandle P. & R. pfd.		$2,564,400	$100	.....	7- 2-23	83	54	108	70	76	47½
44¾	20⅛	14,300	38¼	37⅛	37⅞	Phillips Petroleum	(sh)	2,593,075	N.P.	50cQ	1- 2-30	60¼	36¼	53⅞	35¼	47	24¼
1⅞	1⅛	41,500	1⅜	1⅛	1⅜	Phillips Petroleum rts		.....	.....	.....	.....	..	..	..	..	..	..
2½	1	1,200	1¾	1½	1¾	Pierce Oil Corp.		$29,622,831	$25	.....	.....	1⅛	½	5¼	½	3⅜	1
7⅛	2¼	9,700	6½	6¼	6⅜	Pierce Petroleum	(sh)	2,500,000	N.P.	.....	.....	5½	2½	7	3½	5⅞	½
54	45	600	47	46½	47	Prairie Oil & Gas		$60,848,000	$25	50cQ*	12-31-29	55½	45⅝	68	46	65⅝	40½
60	50¼	700	51	50¾	50⅞	Prairie Pipe Line		$101,250,000	$25	75cQ†	12-31-29	190	130¾	280	172	65	45
11⅞	6½	200	10	9	10	Producers & Refiners		$37,438,950	$50	.....	9-15-23	33⅞	16¾	29⅞	16	25⅞	4
40	31	10	35	35	35	Producers & Refiners pfd.		$2,845,350	$50	.....	5- 1-25	50	36⅞	49⅝	41	46¾	25½
27¼	21⅛	1,800	23	22¾	23	Pure Oil		$75,959,250	$25	37½cQ	12- 2-29	33½	25	31⅝	19	30¾	20
28¼	20⅝	2,500	22½	22	22¼	Richfield Oil		$52,410,875	$25	50cQ	11-15-29	28⅝	25⅜	56	23	49⅝	20
25¾	16½	2,200	21⅞	21	21½	Rio Grande Oil	(sh)	1,236,270	N.P.	$2A	7-25-29	..	..	37½	32	42½	15
56½	49¼	400	53	52⅝	52⅝	Royal Dutch, N. Y.	(sh)	611,303	$1.873	.....	9-13-29	54½	44¼	64	44⅝	64	43⅛
48⅜	42⅜	200	46	45⅝	45¾	Shell Transport & Trading Co.		£23,985,000	£1	$1.45	7-23-29	48⅝	40½	47⅞	41⅜	57½	40⅝
25½	20⅛	x2,600	20⅞	20¾	20¾	Shell Union Oil	(sh)	13,066,497	N.P.	35cQ	12-31-29	31¾	23⅝	39¼	23¼	31¾	19
37	22⅞	900	28¼	27	28¼	Simms Petroleum		$8,353,620	$10	40cQ	12-14-29	25⅜	14¼	27¼	18⅛	40⅛	15
32	21⅝	69,800	29½	27¾	28¾	Sinclair Consolidated	(sh)	5,500,000	N.P.	50cQ	1-15-30	22⅜	15	46⅞	17⅜	45	21
112¼	109	100	110	109½	109½	Sinclair Consolidated pfd.		$16,025,250	$100	$2Q	11-15-29	104½	97	110	102½	111	103
42	28⅞	1,300	36¼	35¼	35⅞	Skelly Oil		$27,441,250	$25	50cQ	12-16-29	37⅜	24⅛	42⅝	25	40½	28
75	55½	1,800	71	70⅜	70⅝	Standard of California	(sh)	12,594,098	N.P.	62½cQ	2-15-30	60¾	50⅜	80	63	81⅞	51½
49	37¼	3,600	41⅜	39⅜	41⅜	Standard Oil of Kansas		$8,000,000	$25	50cQ	12-16-29	20⅞	14⅝	37⅜	15	33⅜	18
84⅞	58	42,900	80¼	78¾	79¾	Standard Oil of New Jersey		$634,999,200	$25	25cQ*	12-16-29	41⅜	35⅛	59⅜	37¾	83	49
40⅜	31¼	3,300	36⅞	36¼	36½	Standard Oil of New York		$445,223,675	$25	40cQ	12-16-29	34⅛	29¾	44¼	28¾	48⅛	31⅜
70	53	500	67	66	67	Sun Oil	(sh)	1,416,869	N.P.	25cQ	12-16-29	34⅞	30	77	31½	86⅜	55
9⅜	5¼	200	7½	7¼	7¼	Superior Oil Corp.	(sh)	776,979	N.P.	.....	12-20-20	..	..	..	..	24	5¼
60⅛	50⅞	4,200	58⅜	57¾	58	The Texas Corporation		$246,204,900	$25	75cQ	1- 1-30	58	45	74¾	50	71⅞	50
14½	8⅞	500	10⅝	10⅛	10⅛	Texas Pacific Coal & Oil Co.		$9,304,890	$10	2½%A‡	12-31-29	18⅞	12	26⅝	12⅛	23⅞	9½
31	19½	200	30¾	28¾	30¾	Tide Water Oil	(sh)	2,191,759	N.P.	20cQ	12-31-29	29⅛	19	41½	19⅝	40	14
94⅞	80⅛	100	92½	92½	92½	Tide Water 5½% pfd.		$19,947,000	$100	$1.25Q	11-15-29	90⅛	85	100⅛	86	97½	85⅛
17¾	10¾	5,200	17½	16¾	17¼	Tide Water Associated	(sh)	5,560,424	N.P.	30cS	2-15-30	19⅛	15¾	25	14¾	23½	10
89¾	78	500	88½	88	88	Tide Water Associated pfd.		$73,284,500	....	$1.50Q	2- 2-30	..	..	..	..	90⅞	74⅛
24	16¼	10,300	20¾	20	20⅝	Transcontinenfal Oil	(sh)	3,742,029	N.P.	.....	.....	10⅜	3¾	14⅜	7¼	15¼	5⅛
50	41⅛	300	45¾	45⅜	45¾	Union Oil of California		$104,342,375	$25	50cQ	11- 9-29	56½	39⅝	58	42⅜	57	42⅛
38½	31	300	33	33	33	Union Tank Car	(sh)	1,254,048	$100	$1.25Q	12- 2-29	127½	94	128⅛	110	163¾	121⅞
27	16⅝	3,500	18¼	18⅛	18¼	Warner-Quinlan	(sh)	632,948	N.P.	50cQ	1- 2-30	34½	24½	44⅞	26	42⅞	15
		No sales.				White Eagle Oil & Refining	(sh)	505,100	N.P.	50cQ	1- 20-30	27½	20	38	20⅛	38	25
21	11½	200	18½	18½	18½	Wilcox Oil & Gas	(sh)	428,907	N.P.	.....	5-10-28	..	..	..	..	29¾	12⅞

*Plus extra dividend of 25 cents. †Plus extra dividend of 50 cents. ‡Payable in stock.

In comparing highs and lows for the several years in the three tables it will be necessary to take into consideration cases where there have been splits in the stock.

Cowdray interests of England, have been elected to the board of directors of the Amerada Corp., increasing the board to 11 members. Lord Cowdray financed organization of the Amerada Corp. in 1920, selling control of the company to American interests through Dillon, Read & Co. in 1926. Election of H. W. Masters to the board is due to the fact that Lord Cowdray has now acquired a substantial minority interest in Amerada.

Humble Oil

Humble Oil & Refining Co. declared the regular quarterly dividend of 50 cents payable July 1 to stock of record May 31.

South Penn Oil

South Penn Oil Co. declared usual extra dividend of 12½ cents and regular quarterly dividend of 50 cents, both payable June 30 to stock of record June 14.

Sinclair Consolidated

Sinclair Consolidated Oil Corp. declared the regular quarterly dividend of 50 cents on the common, payable July 15 to stock of record June 14.

Phillips Petroleum

Phillips Petroleum Co. declared the regular quarterly dividend of 50 cents, payable June 30 to stock of record June 10.

Richfield Oil

Richfield Oil Co. of California reports for the first quarter of 1930 earnings of $3,189,809.78 before depletion, depreciation, intangible drilling expense, interest and federal income tax. Net earnings for the period, after all charges, amounted to $936,740.13, equivalent, after preferred dividends, to approximately 37 cents per share on the 2,043,514 shares of common stock outstanding March 31, 1930.

In a statement accompanying the report, James A. Talbot, chairman of the board, says: "The earnings for the quarter reflected the company's participation in the California curtailment of production and the lowered prices received during the gasoline price disturbance that prevailed on the Pacific Coast during the greater part of the quarter. Gasoline prices were restored April 23, and your management believes that a stable price structure may reasonably be expected for the remainder of the year, which should result in earnings per share consistent with or better than those of last year.

"The company's daily production of crude oil and casinghead gasoline is slightly under 30,000 bbls. per day, with more than 15,000 bbls. per day of crude production closed in in compliance with the state curtailment program.

"Your management feels that greater strides have been made in the petroleum industry during the past six months than during any period for several years previous. Shut-in of production and a corresponding curtailment of refinery throughput have greatly improved economic conditions within the industry. Inventories of $20,142,000 as of Decem-

(Continued on Page 140)

INDEPENDENT OILS ON NEW YORK CURB

Quotations Compiled by Francis, Bro. & Co., Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

1930 High	1930 Low	Week ended June 4 Sales	High	Low	Close	Stocks—	Outstanding capital	Par value	Div. rate	Last paid	1927 High	1927 Low	1928 High	1928 Low	1929 High	1929 Low
⅜	⅛	2,000	⅛	⅛	⅛	Amer. Con. Oilfields	$11,018,000	$5	.....	.....	2 7/16	.55	1½	.53	72c	⅛
4½	1½	3,400	3⅝	3⅜	3⅜	Amer. Maracaibo (sh)	700,000	N.P.	.....	.....	7½	2¾	9½	3⅛	8⅝	1⅛
1⅜	1	200	1¼	1¼	1¼	Argo Oil (sh)	683,971	$10	.....	.....	2¾	1	4½	2¼	5	1½
21	20¼	300	20¼	20¼	20¼	British American (new, C.W.I.)	$1,311,321	N.P.	25cQ*	1- 2-30	40	20½	55	32⅜	62	7⅞
2¾	¾	300	1⅞	1⅞	1⅞	Carib. Syndicate	$131,250	25c	.....	.....	28¼	15½	4½	3⅞	4⅞	1
44¼	26½	44,500	33	32⅜	32½	Cities Service	24,290,359	N.P.	30cA†	1- 2-30	58¾	40¼	90⅞	54	68⅛	20
93⅞	88	400	93⅛	92⅞	93⅛	Cities Service pfd. (sh)	1,500,000	N.P.	50cM	1- 2-30	95⅜	87	103½	94½	98¾	84
1¼	½	234,000	½	⅜	⅜	Cities Service, rts.	.....	....	.....	.....	..	..	..	..	..	..
¾	¼	100	⅜	⅜	⅜	Columbia Syndicate	$2,000,000	$1	.....	.....	3⅞	1⅛	3¼	.76	2	½
5⅞	3⅞	100	4¼	4¼	4¼	Cons. Royalty	$5,000,000	$10	15cQ	10-25-29	9¾	6⅜	8⅞	6¼	11⅛	2½
7⅝	5⅜	500	7½	7¼	7¼	Creole Petroleum (sh)	5,977,873	N.P.	.....	.....	14⅞	9½	17½	9½	11¾	5⅝
1	¼	100	½	½	½	Crown Central (sh)	587,000	N.P.	.....	.....	3	.50	3¼	.76	2½	¼
12⅞	7¼	800	9½	9½	9½	Darby Petroleum (sh)	1,019,392	N.P.	25cQ	1-15-30	12	4	33½	3¼	26	6½
11	4½	600	8	8	8	Derby Oil & Refining (sh)	500,000	N.P.	.....	.....	2½	74	2¼	1	11	2
60	30	200	54	53	53	Derby Oil & Refining pfd	$48,500	N.P.	.....	.....	16¾	4	21⅛	7½	44	20¾
166⅞	131¼	300	149	149	149	Gulf Oil Corp. (sh)	4,504,921	$25	37½cQ	1- 1-30	118	86¼	165	101⅛	209	115
1¾	¾	300	1⅜	1⅛	1⅜	Intercontinental Pet.	$5,682,000	$5	.....	.....	2½	.80	3⅜	1	2⅞	⅝
3	1⅞	400	1⅞	1⅞	1⅞	Kirby Petroleum (sh)	750,000	N.P.	.....	.....	2¼	1⅛	3	1¼	3⅝	1¼
4¾	1¼	500	2½	2½	2½	Leonard Oil & Dev.	$50,000,000	$25	.....	.....	10⅞	5⅛	9⅜	5⅛	6¼	1
20	18⅝	100	26¾	26¾	26¾	Lion Oil & Refining (sh)	250,000	N.P.	50cQ	1-31-30	27½	20	43⅞	20	38⅞	18
55⅞	34⅛	600	49	48¾	49	Lone Star Gas (sh)	5,000,000	N.P.	20cQ	12-31-29	59¾	37	69⅛	48½	67⅞	28
4½	4	800	4¼	4⅛	4¼	Lone Star Gas rts.	.....	....	.....	.....	..	..	..	..	..	..
½	¼	1,500	3/16	¼	¼	Magdalena Syndicate (sh)	850,000	$1	.....	.....	2⅞	.80	1⅞	.50	1¼	¼
16	12	100	12½	12½	12½	Margay Oils	$160,000	N.P.	50cQ	1-10-30	52	12	48½	32	38½	14
7½	2	100	3¾	3¾	3¾	Mexico-Ohio Oil	.....	....	.....	.....	12⅛	5	8	2¾	6⅜	2½
¾	⅜	300	½	½	½	Mountain & Gulf	$4,000,000	$1	2cQ	1-15-30	1½	1	1⅜	.76	1½	¼
12⅛	8	300	10⅛	10⅛	10⅛	Mountain Producers	$1,682,182	$10	40cQ	1- 2-30	29¼	22¾	28⅞	19½	22⅞	7
3½	2⅜	100	2⅝	2⅝	2⅝	New Bradford Oil	$1,095,291	$5	12½cQ	1-15-30	5⅞	4⅝	5⅝	4¼	5	2¼
7¼	3½	100	4⅝	4⅝	4⅝	New Mex. & Arizona	$1,000,000	$1	.....	.....	16	9¼	11⅞	7⅛	9⅜	2¼
11¼	6⅞	100	8⅞	8⅞	8⅞	North Central Texas (sh)	400,000	N.P.	15cQ	12- 2-29	12¾	9½	14¼	8½	18½	6⅛
2½	1	4,300	1⅜	1¼	1¼	Pandem (sh)	489,875	N.P.	.....	.....	9⅜	3¼	6	2⅛	3½	½
4⅜	1⅞	1,000	2¾	2¾	2¾	Pantepec Oil (sh)	1,506,000	N.P.	.....	.....	12⅛	7	15⅝	8½	10¼	1⅞
		No sales.				Pennok Oil	$150,000	N.P.	.....	.....	13½	5⅛	7¾	4⅞	7¾	4⅜
10½	9	300	10	9½	10	Red Bank Oil (sh)	250,000	N.P.	.....	.....	24⅜	7	18	4⅞	16	9⅝
5⅜	2⅛	1,200	3½	3⅜	3⅜	Reiter-Foster (sh)	388,584	N.P.	10cQ	12- 9-29	15½	3½	12⅞	4¼	8½	1⅜
8⅝	3⅝	300	6⅛	6⅛	6⅛	Ryan Consolidated (sh)	500,000	N.P.	.....	.....	7	4½	12	4⅛	11	3
2	1½	200	1¾	1⅝	1⅝	Salt Creek Consolidated (sh)	1,286,300	$10	10cQ	1- 2-30	8	5¼	7¼	5½	5⅞	1⅞
15¼	10	300	12¼	12¼	12¼	Salt Creek Producers (sh)	1,496,859	$10	50cQ	2- 1-30	35½	27¼	35	23⅛	25⅞	9
1	½	100	¾	¾	¾	Savoy Oil	$750,000	$5	.....	.....	7	1¼	3½	1	2½	2 7/16
		No sales.				Transcontinental pfd	.....	....	.....	.....	..	..	..	..	..	..
4½	2¼	300	2⅞	2⅞	2⅞	Venezuelan Petroleum (sh)	755,090	$5	5cQ	11-15-29	7⅜	4¼	9¼	4¾	6½	1¾
5	2	1,300	5	4 ¾	5	Woodley Petroleum	$500,000	$1	.....	.....	7	4¾	8¼	4⅞	9½	2
2½	½	300	1⅞	1⅝	1⅞	Y Oil & Gas (new)	$100,000	N.P.	.....	.....	6	1¾	8¾	2⅛	2⅞	¼

*Including one-half per cent monthly in stock. †Payable monthly and a monthly stock dividend of one-half per cent.

STANDARD OIL STOCKS ON NEW YORK CURB

Quotations Compiled by Francis, Bro. & Co., Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

1930 High	1930 Low	Week ended June 4 Sales	High	Low	Close	Stocks—	Outstanding capital	Par value	Div. rate	Last paid	1927 High	1927 Low	1928 High	1928 Low	1929 High	1929 Low
18½	12¼	400	18½	18⅜	18½	Anglo-American Oil (vot. C.O.D.)	£4,192,635	£1	.36 2/16	11-27-29	21⅝	17⅞	22⅜	14⅞	17	11
1	½	100	¾	¾	¾	Atlantic Lobos	.....	....	.....	.....	..	..	..	..	..	..
25	20	100	20½	20½	20½	Borne Scrymser	$1,000,000	$25	$1SA	10-15-29	69	50	56½	44½	46½	25
69	57	200	61	59½	61	Buckeye Pipe Line	$10,000,000	$50	$1Q	12-14-29	60	45	76	53	74¼	55
184⅞	155	100	171¾	171¾	171¾	Chesebrough Mfg.	$3,000,000	$25	1Q*	12-30-29	126	76½	161	117	210	130
17¾	12⅛	500	16½	16½	16½	Continental Oil (V.T.C.)	$36,057,840	$10	.....	12-15-27	22⅝	16¼	23	16	29	10
65¾	40½	30	60	57	60	Cumberland Pipe Line	$1,500,000	$50	$1Q	12-15-29	137	89	114	67	75¾	40
54¾	43	100	46	46	46	Eureka Pipe Line	$5,000,000	$100	$1Q	11- 1-29	68½	47	88	64⅛	70½	42
7	2½	1,000	6¾	6¾	6¾	Galena Signal Oil, ctfs. of dep.	$16,000,000	$100	.....	.....	13½	3½	13	4¼	6½	3
119	78	600	104	103¼	104	Humble Oil & Refining	$74,103,300	$25	50cQ	1- 1-30	68½	54	114¾	59¼	128	74⅛
311	305	100	307	307	307	Illinois Pipe Line	$20,000,000	$100	$10SA	12-16-29	182	123¾	290½	176½	340½	260
30	22⅛	300	25	24¾	25	Imperial Oil Co., Ltd. (sh)	26,421,768	N.P.	42½cQ	12- 2-29	64¾	37¾	104	56¾	41	22
41	37	100	37½	37½	37½	Indiana Pipe Line	$3,000,000	$10	50cQ‡	2-15-30	94½	61	91⅞	74⅜	41⅞	26
24	17⅜	800	21	20⅝	21	International Pet. (sh)	14,247,088	N.P.	12½cQ	12-16-29	29	28¼	55	35	30⅜	15
22⅜	18⅜	400	19¼	18⅝	19¼	National Transit	$6,362,500	$12.50	25cQ‡	12-16-29	24	13½	32⅜	19⅜	25⅛	10½
21⅜	14	300	20¾	20	20¾	New York Transit (new)	$1,000,000	$10	40cQ†	1-15-30	44½	31¼	75	38½	17½	10
54	37	50	41	41	41	Northern Pipe Line‖	$2,000,000	$50	$2SA	1- 2-30	100	70	69	56½	63	41
75¼	66⅛	100	75¼	75	75¼	Ohio Oil	$60,000,000	$25	5cQ‡	12-14-29	67⅞	52	84	58½	79⅞	64⅛
32	20	100	25	25	25	Penn Mex. Fuel	$10,000,000	$25	50cQ	12-14-29	39	12	84	28	44½	20
33	21	200	21	21	21	Solar Refining	$4,000,000	$25	$1.25SA	12-20-29	..	..	..	..	50	29
20¾	13	400	17	16	16⅞	Southern Pipe Line	$1,000,000	$10	50cQ	.....	27¼	15½	19	15	22½	13
45⅞	37½	4,700	42½	42½	42½	South Penn Oil (new)	$30,000,000	$25	50cQ	12-30-29	41½	35	71⅞	36¾	60¼	35⅛
64	50	100	51	51	51	Southwest Pa. Pipe Lines	$1,750,000	$50	$1Q	1- 10-29	83	55½	102	70	70	60
59⅞	49⅞	3,600	54	53⅛	54	Standard Oil of Indiana	$348,175,069	$25	62½cQ‡	12-16-29	81½	64⅜	95⅞	70⅞	63	45
40½	33¼	800	36⅞	36½	36⅝	Standard Oil of Kentucky	$25,654,516	$10	40cQ	12-16-29	130	111½	179¾	122¼	46⅞	29
48⅞	44⅛	100	48⅜	48⅜	48⅜	Standard Oil of Nebraska	$4,649,225	$25	62½cQ‡	12-20-29	49½	40	54⅞	39⅞	50¼	40
108½	81	50	89	89	89	Standard Oil of Ohio	$14,000,000	$25	62½cQ	1- 2-30	87½	72	134	71	129	60
10	8	100	8	8	8	Swan-Finch Co.‖	$861,466	$25	.....	12- 2-29	21	14½	23½	16	18	10
97⅞	85⅝	2,200	94	91	93⅞	Vacuum Oil Co.	$126,180,350	$25	$1Q	12-20-29	..	..	111	72	133¾	75

*Plus 50 cents extra. †Plus 10 cents extra. ‡Plus 25 cents extra. ‖Bid and ask.

ROCKY MOUNTAIN AREA

(Continued from Page 125)

Alberta's No. 1 is also drilling by the gas showing reported last week.

Near Ringling, on the Crowley Dome, the Standard of California is in the Devonian at 4,650 feet. This well is to go to a depth of 5,000 feet if necessary to make a complete test of the Devonian and all horizons above same.

The Commonwealth Oil Co.'s deep test on the Milk River structure is drilling at 4,100 feet and is also in the Devonian formation.

The area north of Cut Bank that furnished some excitement two years ago when some gas was found there is again active. Two wells are now spudding in that area and expect to make completions in the latter part of July or August. Both are wildcat locations.

ROCKY MOUNTAIN PRODUCTION

Daily average pipe line runs from the various pools in the Rocky Mountain area for the week ending June 7:

WYOMING	
Salt Creek	27,450
Frannie	....
Big Muddy	2,020
Oregon Basin	4,700
Dutton	50
Elk Basin	760
Byron	10
Warm Springs	120
Lovell	20
Ferris	20
Grass Creek	2,080
Hamilton	780
LaBarge	2,280
Lance Creek	130
Lost Soldier	2,400
Osage	880
Poison Spider	1,120
Rock River	2,070
Border	100
Lander	....
Simpson Ridge	50
Teapot Dome	30
Dallas Derby	240
Mule Creek	....
Hudson	280
Cody	150
Total	47,720
MONTANA	
Cat Creek	1,170
Kevin-Sunburst	5,820
Pondera	2,160
Lake Basin	70
Total	9,220
COLORADO	
Moffat	1,036
Fort Collins	1,369
Florence	516
Iles	958
Tow Creek	396
Boulder	25
Rangley	50
Total	4,350
NEW MEXICO	
Hogback	400
Rattlesnake	1,286
Table Mesa	105
Artesia	737
Cap Rock (Maljamar)	914
Jal	1,350
Hobbs High	9,321
Getty	....
Lea	5,919
Miscellaneous (Lea County)	476
Total	20,508
Grand total	81,798
Grand total May 31	89,124
Difference	7,326

JERSEY COMPANY REPORTS EXCELLENT SALES GAINS

(Continued from Page 139)

ber 31, 1929, were reduced approximately $1,000,000 during the first quarter of 1930, and seasonal demands will very substantially reduce inventories during the next few months."

The consolidated balance sheet of Richfield Oil Co. of California as of March 31, 1930, follows:

Net operating income	$3,189,810
Depletion, depreciation, abandonment and drilling expenditures.	1,510,637
Net income before interest and federal income tax	1,679,173
Interest charges	702,433
Provision for federal income tax	40,000
Net income available for dividends	936,740

Indian Refining

The New York Stock Exchange has received notice from the Indian Refining Co. of proposed increase in authorized common stock from 1,300,000 shares to 2,000,000 shares.

Pure Oil

Pure Oil Co. declared regular quarterly dividends of $1.25 on the 5¼ per cent preferred, $1.50 on the 6 per cent preferred and $2 on the 8 per cent preferred stocks, all payable July 1 to stock of record June 10.

The Pure Oil Co. reports for the fiscal year ended on March 31 a net income of $6,539,521 after depreciation, depletion, interest, abandonment of leases, taxes and all other charges, equivalent after preferred dividend requirements to $1.51 a share on the 3,038,370 shares of $25 par common stock outstanding. This compares with a net of $11,224,081, equivalent to $3.05 a common share, in the preceding fiscal year.

The statement of Henry M. Dawes, president, says:

"The operating results as shown by the statement of earnings are not indicative of the progress that has been made by the company. In the last three months of the fiscal year most adverse conditions existed in the industry generally. Prices for both finished and crude oils were abnormally low. Early in April, however, an advance was made in crude prices, which was followed by increases in the prices of finished products in certain sections."

The consolidated balance sheet shows current assets of $33,971,070 and current liabilities of $6,521,530, a ratio of more than 5 to 1. In March the company issued $20,000,000 10-year 5½ per cent sinking fund gold notes to provide additional funds for the opening of two new fields, new pipe lines and additional refinery facilities.

The current assets on March 31 include crude and refined oil carried at $13,870,225; cash amounting to $8,790,437, accounts receivable of $5,655,891 and material and supplies carried at $3,319,784. Current liabilities include accounts payable of $4,021,919; preferred dividends payable of $485,000; notes payable of $978,000, and accrued liabilities of $1,036,611. Net working copital at the end of the year was $27,395,540, compared with $25,554,994 at the end of the preceding year. Total assets at the end of the past fiscal year were $215,410,872.

THEORY OF ANTIKNOCK MOTOR FUELS EXPLAINED

(Continued from Page 34)

is suppressed by the addition of tetraethyl lead or some other knock suppressing material. The theories expounded to date are too numerous to describe even briefly, and many of them are extremely technical.

Theories of Knock Cause

An early theory was that known as the "Radiation Theory." It is contended in this that detonation results in a combustion mixture by the activation due to radiation, which precedes the flame propagation. It was thought that the high rate of flame travel brought about a high pressure wave in the engine and momentarily caused an impact against the motor parts.

Another theory holds that the flame velocity is increased as a function of the electron emanation in the burning gas. Another theory attempts to develop the fact that acetylene momentarily forms in the combustion chamber for it is known that acetylene is a high detonating gas under combustion conditions. This theory does not appear to have much support, however, due to the fact that acetylene has not been identified in the explosive mixture. Still another theory explains the phenomena of detonation by assuming there is a molecular collision of unacted-upon gasoline, carbon monoxide, oxygen and other gases present as burning starts.

Two theories which have been given greater promise have been enunciated by Ricardo and Midgley and Boyd. The Ricardo theory says that detonation is an explosion wave and states that the combustion of the gases starts slowly at the point of ignition and increases in velocity and temperature with a high-pressure frontal wave so that the unconsumed gas, ahead of the wave, is compressed with a temperature rise within the unburned gases, which brings about spontaneous ignition. When the rate of compression and temperature rise of the unburned gases reach a point that the heat of combustion is not dissipated, there is an auto-ignition set up which brings about an explosion wave, striking the walls of the cylinder with a hammer-like knock.

What Takes Place in Cylinder

Dr. Gustav Egloff, of the Universal Oil Products Co., simplifies this statement by explaining what takes place in the cylinder as follows: "When a mixture of air and gasoline is passed into an automotive cylinder and ignited by the spark plug, burning takes place. The burning gas travels in a wave front which compresses the unburned gas before it. When this compression of the unburned gas reaches a point of sufficiently high temperature, the unburned gas explodes, giving the detonation phenomenon. When knocking occurs, a temperature rise is noted in the cylinder and the engine becomes heated, which further aggravates the detonation conditions. The knocking phenomena therefore dissipate energy, due to the high temperatures, which is lost to the cooling water surrounding the cylinder; hence a loss of power is incurred."

Midgley and Boyd have shown that the knocking tendency of gasoline is a function of velocity of burning and that detonation is less the slower the gasoline is burned in the engine.

The most recent theory attempts to show that detonation is due to the gasoline breaking down into its constituents, hydrogen and carbon, with the hydrogen being burned first and then the carbon. The procedure is pictured as one in which oxidation of the hydrogen atoms present takes place as a flash and then upon the completion of the oxidation of the hydrogen atoms, this is followed by oxidation of the carbon atoms as a second flash. Tetraethyl lead and other knock suppressing materials are said to cause the simultaneous oxidation of the hydrogen and carbon atoms. Some believe the antiknock material serves somewhat as a catalyst for the oxidation of the carbon atoms, thus speeding up the oxidation of the carbon atoms to that of the rate of the hydrogen atoms. Recent work may tend to strengthen this theory on the basis that abnormally higher percentages of tetraethyl lead tend to induce a knock and this might be interpreted as meaning the oxidation of the carbon precedes that of the oxidation of the hydrogen. Using this theory, it is also pointed out that a gasoline made from a paraffin base crude and one said to contain saturated hydrocarbons, contains more hydrogen in proportion to the number of carbon atoms than gasolines containing aromatic hydrocarbons or unsaturated hydrocarbons. Where there are a large number of hydrogen atoms it is supposed that the oxidation of the hydrogen comes as a more severe flash and extends over a longer period of time.

Use of Tetraethyl Lead

Some work recently completed by Dr. G. G. Brown, Matt Souders, Jr., and Marvin S. Carr at the University of Michigan has led to establishing several new ideas regarding the use of tetraethyl lead, the summary of which follow:

"1. The effect of adding tetraethyl lead to explosive mixtures is essentially independent of the chemical structure of the fuel—viz., paraffin hydrocarbons, aromatic hydrocarbons, alcohols and ether—differing only in degree for the differing classes of fuels, but is largely governed by the type or rate of the combustion following ignition.

"2. For mixtures which give a maximum rate of rise of pressure below a critical rate (approximately 90,000 pounds per square inch per second in this work), the effect of small amounts of tetraethyl lead (0.1 to 0.2 per cent by volume) is to decrease the maximum rate of rise; greater additions tend to increase the maximum rate of rise of pressure in some cases above that for the untreated fuel.

"For mixtures which give a maximum rate of rise of pressure above the critical rate, the effect of tetraethyl lead, at least in proportions from 0.1 to 1.0 per cent by volume, is to increase the maximum rate of rise with all fuels tested.

"4. When the rates of pressure rise are taken from the same curves, above and below the critical rate, as was done with ether and fast-burning n-heptane, the effect of the tetraethyl lead on each side of the critical rate is consistent with its effect on the maximum rates which are above or below the critical point.

"5. The effect of tetraethyl lead on the rate of rise of pressure is dependent upon the normal rate of rise of pressure of the fuel mixture, and is at least qualitatively independent of the chemical composition of the fuel.

"6. Tetraethyl lead must be decomposed to be effective, at least in explosive mixtures.

"7. Decomposed tetraethyl lead decreases flame velocity and rate of rise of pressure, particularly of the autoignition flame, and raises the temperature required for autoignition ahead of the flame front.

"8. The pressure waves are initiated in the partly burned gases by sparks passed subsequently to the initial igniting spark.

"9. A shock wave is developed from the mutual influence of pressure waves and a high rate of release of energy.

"10. Autoignition ahead of the flame front results in a high rate of release of energy."

FLUE GAS ANALYSIS IS IMPORTANT FACTOR

(Continued from Page 131)

wool and a water bottle, by the proper manipulation of which exactly 100 cc. of the flue gas that is to be analyzed is drawn into the burette. By again manipulating the water bottle, this 100 cc. gas sample is several times passed into and out of pipette C which contains a solution of potassium hydroxide which absorbs the CO_2 that is in the flue gas. After all the CO_2 has been removed from the flue gas sample, the remainder of the sample is passed back into the burette and measured. Since the CO_2 has been removed the gas which still remains will have a volume which is less than 100 cc, the decrease in volume indicates the percentage by volume of CO_2 in the flue gas.

In like manner the remainder of the gas is introduced into pipette D which contains a solution of potassium pyrogallate which absorbs the oxygen from the flue gas sample. After the oxygen has been removed, the remainder of the gas is passed into pipette E which contains an acidulated solution of cupros chloride that absorbs the carbon monoxide.

After the carbon dioxide, oxygen and carbon monoxide have been removed from the flue gas sample, the remainder consists principally of nitrogen.

Example

Assume that 100 cc. of the flue gas sample is originally drawn into the burette. After the sample has been passed through pipette C a number of times and then measured, it is found that the volume is now 88 cc. thus the sample contains $100 - 88 = 12$ cc. of carbon dioxide or the proportion by volume of the carbon dioxide is twelve-one-hundredths or 12 per cent.

After the oxygen has been removed by passing the remainder of the sample through pipette D, the volume as measured in the burette is 82 cc. That is there were $88 - 82 = 6$ cc. of oxygen in the original 100 cc. of gas or the proportion by volume of the oxygen is 6 per cent.

After the remainder of the sample has had the carbon monoxide removed by passing it into pipette E, the volume is found to be 81.4 cc., thus the proportion by volume, of the carbon monoxide is: $82 - 81.4$ or 0.6 per cent.

Since there are 81.4 cc. yet remaining, the percentage by volume of nitrogen is 81.4 per cent.

G. C. BUCHANAN DIES

HOUSTON, Tex., June 9.—George C. Buchanan, assistant superintendent of the Gulf Production Co., Houston, died Sunday afternoon, June 8, following a week's illness. Mr. Buchanan had been in the service of the Gulf companies 21 years and at the Houston office 15 years. He was 55 years old.

EAST CENTRAL TEXAS IS SHOWING MORE ACTIVITY THAN FOR MONTHS

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., June 9.—East Central Texas is showing more activity than it has for several months, and buying of spreads and royalty has taken on renewed activity in several areas where new tests are to be drilled.

Navarro County is probably one of the most active counties in the district since four wildcat locations have been staked in various parts of the county. Wheelock and Collins have announced location for No. 1 W. D. Castles, 150 feet from the south and west of a 31.5-acre tract in the Abner Mathews Survey, approximately 1 mile north of Eureka. Young and others have made location for No. 1 J. H. Farmer, 400 feet from the east and 700 feet from the south of a 110-acre tract in the Robert Finley Survey, northwest of Dawson. The Navarro Oil Operators are fishing at 1,365 feet on No. 2 Mathews which is located 3,600 feet from the south and 1,140 feet from the west of the Smith Survey, approximately 3 miles east of Dawson. Ed Bateman's test is near the town of Bazette.

Deeper Test Near LaRue

Shell Petroleum Corp. is erecting a 122-foot derrick on No. 1 Stephens test near the town of LaRue in eastern Henderson County and intends to carry the hole to 6,000 feet unless salt is found. Total depth is 4,360 feet in the Georgetown, and many feel the company may bring in a producer from the Trinity.

This test is on one of the best looking structures in East Central Texas, and created considerable excitement and a big lease and royalty "play" at the beginning. The formations checked favorably all the way down, but the Woodbine failed to carry oil, and consequently interest in the test faded but with intentions of carrying it on down it will no doubt again become interesting to many who are anxious to see a Trinity test in that area.

McElreath and Sugget have a block near the town of Lindale in Smith County, about 8 miles east of the Van Pool, and have a contract calling for a 4,000-foot test which is to be spudded by July 1. The location will be on the Gilliam farm in the J. C. Robinson Survey.

Fifty-four Producers

The Van Pool, Van Zandt County, now has 54 completed producers, three more being completed this week. Pure Oil Co. completed No. 4 Thompson for a 203-bbl. well at a total depth of 2,942 feet; Pure-Sun Oil Co. completed No. 2 Thompson, offsetting No. 1 Murphree, the best well in the field, for a 1,088-bbl. well at a total depth of 2,940 feet, and the Pure Oil Co. completed No. 3 R. L. Wells at a total depth of 2,931 feet for 408 bbls.

It is reported that Unit Plan No. 2 covering acreage held by the Shell Petroleum Corp., Sun Oil Co., Humble Oil & Refining Co., Gulf Production Co. and The Texas Company, which lies to the northeast of Unit No. 1, has been agreed upon by these operators, but this has not been verified. Humble Oil & Refining Co. has one well drilling on the Mrs. E. E. Carroll 95-acre tract in the William Daniel Survey, northeast of the Van producers, which will be included in Unit Plan No. 2 if that is a reality. This test is setting casing around 385 feet.

The town of Van is rapidly changing appearance due to several stores having been moved to make way for derricks, and the owners of these stores will no doubt wish they had them mounted on trucks in order to keep moving them out of the way of new locations and derricks which will be rigged up from time to time, for the town of Van is the nucleus of the field, and is being drilled up faster than surrounding acreage.

EAST CENTRAL TEXAS

Boggy Creek	3,600
Cedar Creek	40
Currie	330
Hill County	35
Mexia	4,211
Minerva	567
Nigger Creek	205
Powell	5,747
Richland	220
Thrall	41
Van	24,454
Wortham	810
Total	40,260
Total week ending May 31	35,507
Increase	4,753

COMPLETIONS

San Augustine County

Pickerel and others' No. 1 Stanley was dry and abandoned at a total depth of 825 feet.

Anderson County

Humble Oil & Refining Co.'s No. 5 A. B. Mandelston had the Pecan Gap from 2,525-2,780 feet, came in for an initial production of 610 bbls. of fluid, 124 bbls. of oil and 60 per cent water, completed at a total depth of 3,647 feet.

EAST CENTRAL TEXAS WILDCATS

Week Ended June 9

ANDERSON COUNTY

Navarro, Sun and Humble's No. 1 Gardner, 1,150 ft. from N and 150 ft. from E of 147.5-acre tract in M. M. Salinar Sur. ..... Drlg. 2,460 ft.

Sun Oil Co.'s No. 2 Bowers & Maier, 150 ft. from S and 140 ft. N of SW, 1,450 ft. SW of SE lines of tract ..... Drlg. 1,032 ft.

FREESTONE COUNTY

Killam & Phillips' No. 1 Killam, 150 ft. from N and 1,510 ft. E of 272½-ac. tract, A. Sanchez Sur. ..... Drlg. 3,680 ft.

HENDERSON COUNTY

H. B. Ashburn et al's No. 1 T. E. Barry, center of Barry's 59-acre tract in A. York Sur. ..... Shut down 2,425 ft.

Chapman's No. 1 Cade, 1,662 ft. from N and 3,294 ft. from W of J. B. Dorsey Sur. ..... S. D. 3,100 ft.

Cranfill & Germany's No. 1 Stow, 2,582 ft. E, 785 ft. S. Guadalupe Acosta Sur. ..... Location.

George Pace et al's No. 1 Mrs. Sarah Anthony, 273 ft. N and 132 ft. W of SE cor. of S. Anthony 632-ac. tract, Jose W. Battvan Sur. ..... Derrick.

Shell's No. 1 Stephens, 760 ft. from S, 330 ft. from E lines I. D. Owens Sur., S. T. Stephens 118-ac. tract ..... Shut down 4,366 ft.

HUNT COUNTY

Branson et al's No. 1 West, 350 ft N, 350 ft. W of W 60-ac. tract, Jas. Rooces Sur. ..... Spudded.

KAUFMAN COUNTY

Bowell et al's No. 1 Ables, 1,200 ft. from SE, 1,000 ft. from SW of Ables' 233-acre tract, Elizabeth Ables Sur. ..... Shut down 548 ft.

NAVARRO COUNTY

Tidal Oil Co.'s No. 1 Longbothan, 450 ft. S and 150 ft. E of 92-acre tract, Turner Smith Sur. ..... Drlg. 1,234 ft.

RAINS COUNTY

Everett & Morrison's No. 1 Franklin, 640 ft. from S and E of 75-acre tract in John Christian Sur., 6 miles SE of Emory ..... Rigging up.

Owens & Sloan's No. 1 Hill, 150 ft. out of NW cor. of 150-ac. tract, T. McMahon Sur. ..... Drlg. 3,052 ft.

RUSK COUNTY

Mass et al's No. 1 Mathews, 2,244 ft. from N, 4,356 ft. from E, Dalines Cartinas Sur. ..... Rigging up.

SMITH COUNTY

Adair & Daniels' No. 1 A. J. Poinier, 935 ft. from W. 200 ft. from N of 212.75-ac. tract ..... Drlg. 4,272 ft.; deepening old well.

Owen Sloan Oil Co.'s No. 1 Starnes, 846 ft. along W lines of John Waller Sur. from NE cor. of J. O. Dillard Sur. and 80 ft. E at right angles to W line of J. Waller Sur. ..... S. D. 1,322 ft.

Sutton et al's No. 1 W. D. Hammond, 150 ft. out of SW cor. W. D. Hammond tract in Jas. Reed Sur. ..... S. D. 3,642 ft.

Winona O. & G. Co.'s No. 1 Freeman, 150 ft. from S, W of 89-ac. tract in A. J. Lagrone Sur., 4 miles SE of Winona ..... Derrick.

VAN ZANDT COUNTY

L. R. Barton's No. 1 Wamble, 300 ft. from S and W of 100-ac. tract in Pleasant Young Sur. ..... Derrick.

Century Oil Co.'s No. 1 L. A. Stewart, 1,200 ft. N, 132 ft. E of SW cor. of A. J. Hershley Sur. ..... Drlg. 2,050 ft.

Chapman et al's No. 1 Clarke, 150 ft. from N and W of 76-ac. tract, John Walling Sur. ..... Derrick; temporarily abandoned.

E. L. Chapman's No. 1 Charles Wolverton, 215 ft. from N., 60 ft. S of NE cor. of Wolverton 10-ac. tract, William James Sur. ..... Derrick.

Craft & Kelsey's No. 1 Euas, John Prade Sur., 150 ft. from E and 71 ft. at right angles to intersection of Sam Allen tract, north farm. ..... Temporarily abandoned.

Cranfield & Reynolds No. 2 D. S. Coker, 100 ft. NE of No. 1 Wm. Daniel Sur. ..... Shut down 1,114 ft.

T. Daniels' No. 1 Fannie Cumbine, 135 ft. S and 175 ft. E of NW cor. 156-acre tract John Wright Sur. ..... S. D. 2,275 ft., repairs.

Dennis Oil Co.'s No. 1 C. W. Morris, 100 ft. from N and 300 ft. from E lines of Morris 160-acre tract in C. L. Morris Sur., 5 miles SE of Ben Wheeler. ..... Shut down 2,865 ft.

Grand Saline Oil Co.'s No. 1 Carns, 200 ft. from S and W of most westerly SW cor. of 588-acre tract in S.P.R.R. Sur., Abstract 887, 4½ miles N of Grand Saline ..... Drlg. 2,342 ft.

Hartt Oil Co.'s No. 1 Dr. L. M. Cox in A. C. Night Sur. 1,785 ft. N of S line and 524 ft. E of W line ..... Derrick.

B. P. Hervey's No. 1 Foster & Smith, 150 ft. S. and 150 ft. W. of 104-ac. tract, Margaret Neal Sur. ..... Drlg. deeper; rigging up.

Humble Oil & Refg. Co. No. 1 Mrs. E. E. Carroll, 150 ft. from S and 150 ft. from W of Carroll 95-acre tract, Wm. Daniel Sur. ..... T. D. 128 ft.

Howard & Dooley's No. 1 Elliott 188-ac. tract in W. H. Bundy Sur. ..... Derrick blew down.

Imperator Oil Co.'s No. 1 Canter, 150 ft. from N and W of Carter 171-ac. tract, W. M. Daniels Sur., NE of Van Pool ..... Drlg. 3,054 ft.

Priest et al's No. 1 Blewett, 175 ft. NW and SW of SE cor. of NW 84-ac. tract, E. Porter Sur. ..... Rigging up.

Pure Oil Co.'s No. 1 P. H. Williams, 642 ft. from N and 250 ft. from W, Mrs. C. White 45-ac. tract, John Walling Sur. ..... Location.

Pure Oil Co.'s No. 1 R. V. White (Texas Co.), 200 ft. from W and 250 ft. from S. 25-ac. tract, John Walling Sur. ..... Location.

Pure Oil Co.'s No. 1 J. A. Bracken, 69-ac. tract, 673 ft. from N and 225 ft. from E, John Walling Sur. ..... Location.

Pure Oil Co. and Sur Oil's No. 1 Wallace, 347-ac. tract, 200 ft. from W and 315 ft. from N, John Walling Sur. ..... Location.

Pure Oil Co.'s No. 1 Well & Tunnell, 54-ac. tract, 225 ft. from E and 250 ft. from N, H. V. Moore Sur. ..... Location.

Pure Oil Co.'s No. 1 Davis, 127 ft. from S and 200 ft. from W of 139-ac. tract, Nacogdoches County school land ..... Location.

Pure Oil Co.'s No. 1 Miller, 328 ft. from N and 177 ft. from E of 5-ac. tract in Mund Gross Sur. ..... Location.

Short et al's No. 1 B. C. Andrews, 330 ft. N and 160 ft. E of NE cor. of J. P. Farley 60-acre tract in Margaret Neil Sur. ..... Shut down 3,535 ft.

Texas Chief Oil Co.'s No. 1 Foster, 600 ft. E of W line and 600 ft. N of S line of W. P. Foster's 151-acre tract in F. Montgomery Sur., 7 miles south of Canton. ..... Drlg. 100 ft.

Van Zandt Oil & Dev. Co.'s No. 1 Robinson, located NE cor. of Y'Barbo Sur., 4 miles E of Grand Saline. ..... Drlg. 4,250 ft.

WOOD COUNTY

Big Indian Oil Co.'s No. 1 R. J. King, 450 ft. W of E line and 150 ft. N of S line of King's 109-acre tract in Wm. Barnhill Sur. ..... Drlg. 3,760 ft.

Pace et al's No. 1 Dickey, 1,200 ft. from E and 300 ft. from S of Dickey 120-ac. tract, J. O. Clark Sur. ..... Shut down 3,410 ft.

Bureau of Standards Visited by Refinery Men of Eastern Area

WASHINGTON, D. C., June 9.—Technologists and executives representing about 25 eastern refineries affiliated with the National Petroleum Association participated Friday, June 6, in the annual visit to the Bureau of Standards. Many of the visitors remained over until Saturday, when opportunity was given by the bureau to witness routine tests which form a major part of its work. The laboratories of the bureau were thrown open to the refiners for inspection.

Seven subjects of immediate interest and importance to the oil industry were discussed and observed in demonstration on Friday, and there was a discussion of the work which the bureau is doing in motor fuels and lubricants. Prior to the meeting at the Bureau of Standards the refiners were taken on a sightseeing trip. At the invitation of the bureau those of the visitors who cared to do so brought their thermometers and these were checked by experts.

The subjects discussed, the speakers including a statement of researches in progress in the bureau laboratories, follow: "The Work of the Bureau of Standards on Motor Fuels," H. K. Cummings, chief automotive power plants section; "Methods of Measuring Anti-Knock Value," D. B. Brooks; "Gasoline Specifications," O. C. Bridgeman; "Introduction to the Work on Lubricants," M. D. Hersey, chief friction and lubrication section; "Laboratory Testing of Oil Stability," R. C. Hardy; "Engine Tests on Lubricating Oils," C. W. Staples; "Mechanism of the Pour Point of Oils," R. Buckley.

ALBERTA ASSOCIATION

CHATHAM, Ontario, June 7.—Directors of the Oil & Gas Association of Alberta recently elected its officers as follows: Honorary presidents, W. S. Herron, W. E. McLeod; president, P. D. Mellon; vice presidents, first, J. H. McLeod; second, Fred Graham; third, Stanley J. Davies; fourth, R. Van A. Mills; fifth, James R. Lowery; committee chairman—production, George Cloakey; commercial, L. H. Watts; engineering, B. L. Thorne; brokers, F. Filteau; finance, E. W. Kolb; entertainment, William Pearce, Jr.; membership, C. W. Hague; publicity, D. Austin Lane; government legislation, G. H. Webster.

SURVEYING UNIVERSITY LANDS

The University of Texas is starting the survey of approximately 340,000 acres of land in Hudspeth County, West Texas, lying in Blocks K, L and N. Eugene F. Boehms, geologist for the University Land Leasing Board, and Bert R. Haigh, instructor in geology in the School of Mines at El Paso, will make the survey which will require two months.

BIG DEMAND FOR EXHIBIT SPACE AT THIS YEAR'S OIL EXPOSITION

Significant facts are brought out in the first release of the International Petroleum Exposition's list of exhibitors for the 1930 oil show, October 4 to 11. The report submitted to A. W. Leonard, chairman of the executive committee, reveals that in the number of contracts for space signed the oil show is 70 per cent in advance of the figures of last year's exposition at this time. An advance is also seen in the percentage of exhibitors who will be represented in the oil show for the second consecutive time. In other years 60 per cent of the exhibitors in the current exposition had displayed in the preceding one. This year 75 per cent of the 1929 exhibitors will take part in the 1930 show.

Not least important are the figures which show that although the physical proportions of the exposition plant have been increased by more than 25 per cent this year, contracts have been signed to cover 92 per cent of the space available. This in spite of the fact, according to William B. Way, general manager, that many of the prospective exhibitors do not realize the advantages afforded in the latest additions on the grounds, the new California building and the lots between this building and the Scientific and Technical structure.

The list of exhibitors to date follows:

A

Aluminum Co. of America, Pittsburgh, Pa.; Advance Rumely Thresher Co., Tulsa; Atlas Supply Co., Tulsa; Armstrong Machine Works, Three Rivers, Mich.; Arco Company, Cleveland, Ohio; Appleton Electric Co., Tulsa; American Steel Works, Kansas City, Mo.; American Rolling Mill Co., Middleton, Ohio; American LaFrance & Foamite Corp., Elmira, N. Y.; American Fomon Co., Philadelphia, Pa.; American Cable Co., Bridgeport, Conn.; American Brass Co., Waterbury, Conn.; Allegheny Steel Co., St. Louis, Mo.; and Air Reduction Sales Co., Oklahoma City, Okla.

B

Baker Oil Tools, Inc., Tulsa; Bailey Meter Co., Cleveland, Ohio; Baldwin-Duckworth Chain Corp., Worcester, Mass.; Barber-Greene Co., Aurora, Ill.; Barco Manufacturing Co., Chicago, Ill.; Barnsdall Corp., Tulsa; Bausch & Lomb Optical Co., Rochester, N. Y.; Benjamin Electric Manufacturing Co., Des Plaines, Ill.; Bethlehem Steel Corp., Bethlehem, Pa.; Black-Sivalls-Bryson, Inc., Bartlesville, Okla.; Blaw-Knox Co., Blawknox, Pa.; Borden Co., Warren, Ohio; Bosch, Robert, Magneto Co., Inc., Long Island City, N. Y.; Botfield Refractories Co., Philadelphia, Pa.; Bovaird Supply Co., Tulsa; Bristol Co., St. Louis, Mo.; Broderick & Bascom Rope Co., St. Louis, Mo.; Brown Instrument Co., Philadelphia, Pa.; and Buda Co., Harvey, Ill.

C

California Oil World, Los Angeles, Calif.; Camp, C. F., Co., Tulsa; Chain Belt Co., Milwaukee, Wis.; Chaplin-Fulton Manufacturing Co., Pittsburgh, Pa.; Chicago Bridge & Iron Works, Chicago, Ill.; Clifford-Jacobs Forging Co., Champaign, Ill.; Climax Engineering Co., Clinton, Iowa; Chicago Pneumatic Tool Co., New York, N. Y.; Clark Brothers Co., Tulsa; Colona Manufacturing Co., Pittsburgh, Pa.; Consistometer Corp., Chicago, Ill.; Crouse-Hinds Co., St. Louis, Mo.; Cameron Tool & Supply Co., Cameron, W. Va.; and Continental Supply Co., St. Louis, Mo.

D

Dearborn Chemical Co., Kansas City, Mo.; Dover Stamping & Manufacturing Co., Cambridge, Mass.; Dixon Crucible Co., Joseph, Jersey City, N. J.; Durametallic Corp., Kalamazoo, Mich.; Duriron Co., Inc., Dayton, Ohio; and Driftmeter Co., Tulsa.

E

Eagle-Picher Lead Co., Joplin, Mo.; Edwards Co., E. H., San Francisco, Calif.; Electric Supply Co., Tulsa; and Emery Co., Inc., B. V., Tulsa.

F

Ferro Machine & Foundry Co., Cleveland, Ohio; Fisher Governor Co., Marshalltown, Iowa; Foxboro Co., Foxboro, Mass.; France Packing Co., Tacony, Philadelphia, Pa.; Frick-Reid Supply Corp., Tulsa, and Fusion Welding Corp., Chicago, Ill.

G

Garlock Packing Co., Palmyra, N. Y.; Gaso Pump & Burner Manufacturing Co., Tulsa; Gates Hardware Co., Tulsa; General Electric Co., Schenectady, N. Y.; General Motors Truck Corp., Pontiac, Mich.; General Paint Corp., Tulsa; Granger Indicator Co., Whittier, Calif.; Griscom-Russell Co., Dallas, Tex.; Guiberson Corp., Dallas, Tex., and Gulf Publishing Co., Houston, Tex.

H

Happy Belting Co., Tulsa; Halliburton Oil Well Cementing Co., Duncan, Okla.; J. A. Hardin, Tulsa; Haynes-Stellite Co., Kokomo, Ind.; Hercules Motors Corp., Canton, Ohio.; Hercules Tool Co., Tulsa; Hills-McCanna Co., Chicago, Ill.; Charles Hough Manufacturing Co., Franklin, Pa.; Hughes Tool Co., Oklahoma City, and Hyatt Roller Bearing Co., Newark, N. J.

I

Imperial Brass Manufacturing Co., Chicago, Ill.; Independent Oil & Gas Co., Tulsa; Ingersoll-Rand, Tulsa; International Filter Co., Chicago, Ill.; International Harvester Co., Tulsa, and International Derrick & Equipment, Tulsa.

J

Jackson Engineering Corp., Tulsa; Jenkins Brothers, New York, N. Y.; Jones & Laughlin Steel Corp., Pittsburgh, Pa., and Jackson, Byron, Co., Tulsa.

K

Kellogg Switchboard & Supply Co., Chicago, Ill.; Kemper-Thomas Co., Cincinnati, Ohio; Key Boiler Equipment Co., East St. Louis, Ill., and Keystone Driller Co., Joplin, Mo.

L

Landis Machine Co., Waynesboro, Pa.; Leeds & Northrup Co., Philadelphia, Pa.; Lincoln Electric Co., Cleveland, Ohio; Linde Air Products Co., New York, N. Y.; Link Belt Co., Tulsa; Lion Brothers Co., Inc., Baltimore, Md.; Longyear Co., E. J., Minneapolis, Minn.; Lunkenheimer Co., Cincinnati, Ohio, and Lufkin Foundry & Machine Co., Tulsa.

M

Mahan, McCarty & Besse, Inc., Tulsa; Maloney Tank Manufacturing Co., Tulsa; Martin & Schwartz, Inc., Buffalo, N. Y.; Mason Regulator Co., Boston, Mass.; Mid-Continent Petroleum Corp., Tulsa; Mine Safety Appliances Co., Pittsburgh, Pa.; McEverlast, Inc., Los Angeles, Calif.; Midland Chamber of Commerce, Midland, Tex.; Moore, Lee C., & Co., Inc., Tulsa; Medart Co., St. Louis, Mo.; Modern Engineering Co., St. Louis, Mo., and MacClatchie Manufacturing Co., Compton, Calif.

N

National Foam System, Inc., Tulsa; National Lead Co., St. Louis, Mo.; National Petroleum News, Cleveland, Ohio; National Supply Co., Toledo, Ohio; National Tank Co., Tulsa; Naylor Pipe Co., Chicago, Ill.; North American Car Corp., Tulsa, and Norval Motor Corp., Tulsa.

O

Oakite Products, Inc., New York, N. Y.; Walter O'Bannon Co., Tulsa; O. C. S. Manufacturing Co., Coffeyville, Kans.; Ohio Steel Foundry Co., Springfield, Ohio; Oil Conservation Engineering Co., Cleveland, Ohio; Oildom Publishing Co., Bayonne, N. J.; Oil Field Engineering, Philadelphia, Pa.; The Oil and Gas Journal, Tulsa; Oil Well Improvements Co., Tulsa; Oil Well Supply Co., Tulsa; Oklahoma Iron Works, Tulsa; Oklahoma Steel Castings Co., Tulsa; Oster Manufacturing Co., Cleveland, Ohio, and Oildraulic Lift Co., Memphis, Tenn.

P

Parkersburg Rig & Reel Co., Parkersburg, W. Va.; Petroleum Engineering, Inc., Tulsa; Pittsburgh Equitable Meter Co., Tulsa; Pittsburgh Steel Products Co., Pittsburgh, Pa.; Prairie Oil & Gas Co., Independence, Kans.; Pressed Steel Car Co., Chicago, Ill.; Progressive Brass Manufacturing Co., Tulsa; Pyle-National Co., Chicago, Ill.; Pyrene Manufacturing Co., Newark, N. J.; Podbielniak & Raigorodsky, Tulsa; Podbielniak, Walter J., Tulsa; Petroleum Engineer, Tulsa, and Prescott Co., Menominee, Mich.

Q

Quigley Furnace Specialties Co., New York, N. Y.

R

J. P. Ratigan, Los Angeles, Calif.; Refinery Supply Co., Tulsa; Regan Sales Co., Dallas, Tex., and Ridge Tool Co., Elyria, Ohio.

S

Safety Pulling Machine Co., Independence, Kans.; San Angelo Board of City Development, San Angelo, Tex.; Sharpsville Boiler Works Co., Sharpsville, Pa.; Sheldon Machinery Corp., New York, N. Y.; Sivyer Steel Casting Co., Milwaukee, Wis.; Skelly Oil Co., Tulsa; Smith, A. O., Corp., Milwaukee, Wis.; Smith Separator Co., Tulsa; Smith Welding Equipment Corp., Minneapolis, Minn.; Sonner Burner Co., Winfield, Kans.; Southwestern Bell Telephone Co., Tulsa; Spang & Co., Butler, Pa.; Sperry-Sun Well Surveying Co., Philadelphia, Pa.; Stefco Steel Co., Tulsa; Sterling Steel Casting Co., East St. Louis, Ill.; Stockham Pipe & Fittings Co., Birmingham, Ala.; Stoody Co., Whittier, Calif.; Sun Oil Co., Philadelphia, Pa.; Sherwin-Williams Co., Tulsa, and Star Drilling Machine Co., Chanute, Kans.

T

Tagliabue, C. J., Manufacturing Co., Brooklyn, N. Y.; Taylor Instrument Companies, Rochester, N. Y.; The Texas Company, Tulsa; Timken Roller Bearing Co., Canton, Ohio; Transcontinental Oil Co., Tulsa; Trimont Manufacturing Co., Inc., Roxbury, Mass.; Tube-Turns Co., Louisville, Ky.; Twin Disc Clutch Co., Racine, Wis., and Turbo-Mixer Corp., New York, N. Y.

U

Universal Engineering Co., Los Angeles, Calif., and Union Wire Rope Co., Tulsa.

V

Victaulic Co. of America, New York, N. Y.; and Vinson-Canter Co., Tulsa.

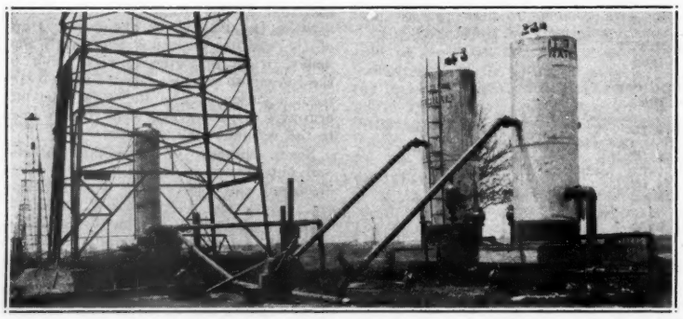
W

Wackman Welded Ware Co., Sand Springs, Okla.; Wailes Dove-Hermiston Corp., Tulsa; Walworth Co., Boston, Mass.; Waukesha Motor Co., Waukesha, Wis.; White Co., Tulsa; Wickwire Spencer Sales Corp., Tulsa; Wico Electric Co., Tulsa; Wilson & Bennett Manufacturing Co., Chicago, Ill.; Wirt Franklin Petroleum Corp., Ardmore, Okla.; Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa., and Westcott & Greis, Inc., Tulsa.

Additional

Young Engine Corp., Canton, Ohio; Louis-Allis Co., Milwaukee, Wis.; Fairbanks Co., New York, N. Y.; C. Lee Cook Manufacturing Co., Louisville, Ky.; Chapman Valve Manufacturing Co., Tulsa; Peerless Supply Co., Inc., Tulsa; S.K.F. Industries, Inc., New York, N. Y.; Sullivan Machinery Corp., Enid, Okla.; Joseph Reid Gas Engine Co., Oil City, Pa.; Worthington Machinery Corp., Tulsa; Warner Manufacturing Co., Minneapolis, Minn.; Globe Machinery & Supply, Des Moines, Iowa; H. H. Robertson Co., Houston, Tex.; Globe Oil Tools, Los Nietos, Calif.; Merco Nordstrom, New Orleans, La.; McAlear Manufacturing Co., Chicago, Ill.; Federal Malleable, Chicago, Ill.; Hanlon-Waters, Inc., Tulsa; Pressed Steel Tank Co., Milwaukee, Wis., and Perfection Manufacturing Co., Minneapolis, Minn.

SAND FROM HIGH-PRESSURE WELLS CAUGHT IN TRAP



The destructive effects of sand blown from high-pressure wells in the Oklahoma City Field have been minimized by the use of a sand-trap shown here on the Coline Clauer No. 1. The trap installed by the National Tank Co. and in appearance much like the familiar gas separator, is simply a heavy cylindrical tank, made of flange steel. The top is reinforced by a wearing plate.

The oil and gas, with their accompanying blast of sand, are hurled against the top of the trap. The oil is carried off in the connecting lines shown. Most of the sand settles to the bottom of the trap, from which it is removed at intervals through a blow-off line. The small percentage of sand that goes along with the oil from the trap does little damage.

GRAVITY CORRECTION TABLES

A new short method of computing corrected gravities of crude oil runs known as "The Practical Method of Reducing Observed Degrees A.P.I. to Degrees A.P. I. at 60° F.," has been compiled and published by J. J. Stephens, who is connected with an oil company in Tulsa. The decimal parts, or tenths, of the indicated gravities, as well as corrections caused by the interpolation table, have been embodied in the corrected gravities shown, which make the system simple, rapid and accurate. The tables are based on the new modulus 141.5, and known as the "A.P.I. Scale," but have been rearranged in a simplified and condensed manner. They are presented in booklet form.

E. D. HOLCOMB RESIGNS

SHREVEPORT, La., June 9.—E. D. Holcomb, division superintendent for the Magnolia Petroleum Co., in charge of operations in North Louisiana, East Texas and Arkansas since January, 1920, resigned, effective June 1, to engage in an independent business and has been succeeded by D. M. Black from the Magnolia's Louisiana Gulf Coast headquarters.

TEAGLE AND MOFFET RETURN

NEW YORK, June 10.—Walter C. Teagle, president of Standard Oil Co. (New Jersey), and James A. Moffett, vice president, have returned on the steamship Leviathan from London. Mr. Teagle said his trip was for the purpose of attending a routine meeting of Standard Oil foreign officials held in London. He had been away only 10 days.

TWELVE MONTH PRODUCTION UP TO MAY 31 WAS 990,341,228 BBLS.

By James McIntyre

The estimated gross production of crude oil in the United States for 12 months ending May 31, 1930, was 990,341,228 bbls. The production in the 12 months ending May 31, 1929, was 934,886,298 bbls., showing that we have produced 55,454,930 bbls. more in the past 12 months than in the previous 12 months. It is true that the crude output in the 12 months ending with May inclusive is 13,925,495 bbls. below the production for the calendar year 1929 but the potential production of the country is greater than it ever was and the curtailment is not yet deep enough to insure a stable price for crude oil.

The gross actual production in April was 76,982,896 bbls., a daily average of 2,566,096 bbls. and the total production for the 12 months ending April 30 was 996,101,946 bbls.

Following is the production by pool in the Mid-Continent, Rocky Mountain and Gulf Coast and Southwest Texas Fields and a summary of production by states in the United States:

SUMMARY BY PRODUCING DIVISIONS

Crude Oil Production in the United States in April, 1930.

	Dly. av. (bbls.)	Month (bbls.)
Oklahoma	651,377	19,541,310
California	625,625	18,768,743
Texas	826,658	24,799,768
Kansas	124,475	3,734,253
Arkansas	57,482	1,724,460
Louisiana	63,652	1,909,552
Montana	9,947	298,410
Wyoming	50,931	1,527,930
Colorado	4,453	133,590
New Mexico	12,496	374,880
Eastern fields	139,000	4,170,000
Total April	2,566,096	76,982,896
Total March	2,520,942	78,149,252
Difference	45,154	1,166,356

MID-CONTINENT FIELD

Daily Average and Monthly Production in April.

	Dly. av. (bbls.)	Month (bbls.)
Kansas	124,475	3,734,253
Oklahoma	651,377	19,541,310
North Texas	101,786	3,053,580
Central Texas	40,684	1,220,510
West Texas	314,560	9,436,801
East Central Texas	34,352	1,030,572
Texas Panhandle	94,532	2,835,960
North Louisiana	41,950	1,258,500
Arkansas	57,482	1,724,460
Total April	1,461,198	43,835,946
Total March	1,412,830	43,797,741
Difference	48,368	38,205

GULF COAST-SOUTHWEST TEXAS

Daily Average and Monthly Production in April.

Gulf Coast Field—	Dly. av. (bbls.)	Month (bbls.)
Coastal Texas	177,633	5,329,015
Coastal Louisiana	21,702	651,052
Total	199,335	5,980,057
Southwest Texas	63,111	1,893,330
Total April	262,446	7,873,387
Total March	259,941	8,083,004
Difference	2,505	209,617

CENTRAL TEXAS

Daily Average and Monthly Production in April.

Runnels	10	304
Coleman	4,205	126,156
Comanche	170	5,097
Stephens	6,206	186,188
Eastland	5,324	159,711
Brown	6,732	201,960
Callahan	3,993	119,784
Throckmorton	1,213	36,388
Jack	3,821	114,632
Haskell	46	1,383
Palo Pinto	649	19,464
Shackelford	6,652	199,567
Jones	1,445	43,336
Erath	218	6,540
Total April	40,684	1,220,510
Total March	40,442	1,253,702
Difference	242	33,192

TEXAS PANHANDLE

Daily Average and Monthly Production in April.

Hutchinson	22,162	664,860
Carson	9,572	287,160
Gray	61,566	1,846,980
Moore	513	15,390
Wheeler	712	21,360
Potter	7	210
Total April	94,532	2,835,960
Total March	88,741	2,750,971
Difference	5,791	84,989

NORTH TEXAS

Daily Average and Monthly Production in April.

	Dly. av. (bbls.)	Month (bbls.)
Burkburnett	9,411	282,330
Electra	11,516	345,480
Iowa Park-K-M-A	4,914	147,420
Archer County	19,342	580,260
Clay County	722	21,660
Wilbarger County	24,645	739,350
Montague County	6,664	199,920
Young County	19,499	548,970
Baylor County	1,076	32,280
Cooke County	3,792	113,760
Foard County	205	6,150
Total April	101,786	3,053,580
Total March	92,277	2,860,587
Difference	9,509	192,993

OKLAHOMA

Daily Average and Monthly Production in April

County—	Dy. ave. (bbls.)	Month (bbls.)
Washington	5,172	155,160
Nowata	5,427	162,810
Rogers	2,060	61,800
Osage and eastern Kay Counties—		
Burbank	16,111	483,330
Osage, outside Burbank	22,711	681,330
Total	38,822	1,164,660
Tulsa and Wagoner Counties—		
Bird Creek, Owasso, etc.	3,203	96,090
Red Fork, Sand Springs, Turkey Mt., Bruner	1,105	33,150
Bixby, Leonard	832	24,960
Broken Arrow, Coweta	944	28,320
Total	6,084	182,520
Tulsa, Okmulgee and Muskogee Counties—		
Okmulgee and Beggs	2,386	71,580
Mounds	1,489	44,670
Bald Hill and Haskell	2,376	71,280
Morris, Boynton, Cole	1,810	54,300
Total	8,061	241,830
Okmulgee, Okfuskee, Seminole, Hughes and Pottawatomie Counties—		
Seminole City	20,401	612,030
East Seminole	3,525	105,750
Bowlegs	20,157	604,710
Little River	58,362	1,750,860
Earlsboro	75,075	2,252,250
Searight	10,575	317,250
Mission	12,033	360,990
Carr City	8,319	249,570
Maud	5,286	158,580
Total Seminole Field	213,733	6,411,990
Allen	20,035	601,050
Konawa	8,445	253,350
Asher	2,093	62,790
Pearson-St. Louis	37,103	1,113,090
Sasakwa	11,558	346,740
Beebe	2,635	79,050
Henryetta, Deaner-Lyons, etc.	7,067	212,010
Wewoka	3,699	110,970
Cromwell	7,624	228,720
Papoose-Gilcrease	2,795	83,850
Jarvis-Holm	306	9,180
Weleetka	1,049	31,470
Wetumka	39	1,170
Yeager	655	19,650
Miscellaneous	1,169	35,070
Total	320,005	9,600,150
Creek and Tulsa Counties—		
Glen Pool, Jenks, Kiefer	6,596	197,880
Sapulpa and Fisher	567	17,010
Cushing-Shamrock	13,956	418,680
Bristow, Kellyville and Depew	13,512	405,360
Pickett Prairie and North Bristow	1,716	51,480
Eastern Bristow or Slick	5,126	153,780
Total	41,473	1,244,190
Pawnee County—		
Cleveland	3,210	96,300
Keystone	1,519	45,570
Jennings	2,117	63,510
Ctoe	562	16,860
Ralston-Masham	219	6,570
Total	7,627	228,810
Payne County—		
Yale, Quay, Ingalls	3,874	116,220
North Cushing	2,600	78,000
South Cushing	210	6,300
Mehan-Ripley	2,677	80,310
Total	9,361	280,830
Oklahoma County—		
Oklahoma City	108,167	3,245,010
Lincoln County—		
Stroud	933	27,990
Davenport	1,216	36,480
Kendrick	202	6,060
Chandler	5,723	171,690
Total	8,074	242,220
Kay, Grant and Noble Counties—		
Blackwell	1,068	32,040
Vernon	759	22,770
Otstot	908	27,240
Deer Creek	731	21,930
Ponca City	568	17,040
Mervine	252	7,560
Breman	3,496	104,880
Hubbard	1,598	47,940
Thomas	727	21,810
Garrett	23	690
Tonkawa	7,623	228,690
Billings	126	3,780
Miscellaneous	2,431	72,930
Total	20,310	609,300
Garfield County—		
Garber	4,593	137,790
Logan County—		
Lovel	624	18,720
Marshall	6,496	194,880
Total	7,120	213,600
Carter County—		
Healdton	11,926	357,780
Hewitt	7,126	213,780
Graham	2,712	81,360
Brock	555	16,650
Fox	2 138	64,140
Sholom Alechem	13,446	403,380
Total	37,903	1,137,090
Stephens and Cotton Counties—		
Loco-Milroy	1,518	45,540
Comanche	1,153	34,590
Duncan	4,351	130,530
Walters	2,306	69,180
Kilgore	339	10,170
Total	9,667	290,010
Jefferson County—		
Hambro, etc.	2,581	77,430
6s-6w	158	4,740
Total	2,739	82,170
Caddo County—		
Cement	2,734	82,020
Garvin County—		
Robberson	1,853	55,590
Grady County—		
Knox	2,993	89,790
Beckham County—		
Sayre	103	3,090
Marshall County—		
Madill	1,029	30,870
Total April	651,377	19,541,310
Total March	616,526	19,112,306
Difference	34,851	429,004

KANSAS

Daily Average and Monthly Production in April

	Dly. av. (bbls.)	Month (bbls.)
Sedgwick County—		
Wright	16,985	509,550
Greenwich	3,162	94,860
Robbins	389	11,670
Miscellaneous	873	26,190
Total	21,409	642,270
Marion County—		
Florence-Urschel	489	14,670
Peabody	882	26,460
Covert-Sellers	440	13,200
Lost Springs	613	18,390
Davis	782	23,460
Total	3,206	96,180
Butler County—		
Elbing	2,013	60,390
Potwin	481	14,430
Cameron-Robinson	569	17,070
Wilson-Dunkle	1,597	47,910
Towanda	1,715	51,450
Fox-Bush	934	28,020
Nuttle-Koogler	2,985	89,550
Eldorado	6,729	201,870
Smock	212	6,360
Leon-Weaver	4,265	127,950
North Augusta	868	26,040
South Augusta	1,187	35,610
Sluss	224	6,720
Douglass	97	2,910
Keighly	476	14,280
Benton	49	1,470
Blankenship	864	25,920
Total	25,265	757,950
Greenwood and Woodson Counties—		
Sallyards	1,025	30,750
Teeter-Pixley-Scott	4,125	123,750
Virgil	5,619	168,570
Thrall-Burkett	1,111	33,330
Seeley	7,306	219,180
Polhamus	714	21,420
Miscellaneous	804	24,120
Total	20,704	621,120
Cowley County—		
Rainbow Bend	1,596	47,880
Slick	478	14,340
Graham	261	7,830
Rock	134	4,020
Clark	105	3,150
Eastman	292	8,760
Winfield-New Salem	1,939	58,170
Miscellaneous	884	26,520
Total	5,689	170,670
McPherson County—		
Ritz	781	23,430
Voshell	17,884	536,520
Miscellaneous	151	4,530
Total	18,816	564,480
Other Counties—		
Rooks	56	1,680
Sumner	9,407	282,210
Rice	767	23,010
Russell	3,879	116,370
Reno	24	720
Harvey	10	304
Trego	20	599
Coffey	274	8,220
Chautauqua	3,402	102,060
Elk	1,750	52,500
Wilson	149	4,470
Montgomery	3,528	105,840
Allen	485	14,550
Neosho	495	14,850
Lyon	736	22,080
Miami	1,118	33,540
Franklin	314	9,420
Douglas	12	360
Bourbon	80	2,400
Linn	149	4,470
Anderson	1,586	47,580
Labette	27	810
Chase	21	630
Woodson	1,097	32,910
Total April	124,475	3,765,003
Total March	113,045	3,504,395
Difference	11,430	260,608

EAST CENTRAL TEXAS

Daily Average and Monthly Production in April

	Dly. av. (b ls.)	Month (bbls.)
Boggy Creek	3,578	107,350
Cedar Creek	61	1,840
Currie	385	11,553
Hill County	45	1,350
Mexia	4,195	125,853
Minerva	470	14,100
Nigger Creek	212	6,365
Powell	5,853	175,569
Richland	230	6,905
Thrall	38	1,146
Van	18,421	552,625
Wortham	864	25,911
Total April	34,352	1,030,572
Total March	26,251	813,797
Difference	8,101	216,775

WEST TEXAS

Daily Average and Monthly Production in April

Field and County—	Dly. av. (bbls.)	Month (bbls.)
Bennett, Ward	161	4,827
Big Lake, Reagan	16,320	489,614
Chalk-Settles, Glasscock and Howard	39,019	1,170,577
Church, Fields, Crane	21,063	631,879
Hendricks, Winkler	80,480	2,414,414
McCamey-Taylor, Upton	8,687	260,602
McElroy, Crane	13,893	416,781
Skelly, Reagan	161	4,815
Ira, Scurry	24	722
Powell, Crockett	1,618	48,547
Yates, Crockett	457	13,716
Stephens, Fisher	970	29,091
Westbrook-Iatan, Mitchell	2,042	61,257
Wheat, Loving	1,247	37,406
Yates, Pecos	112,335	3,370,053
Hazlett, Ward	443	13,280
O'Brien-Hutching, Ward	899	26,969
Grand Falls, Ward	65	1,961
Mertson, Irion	....	....
Pecos Valley, Pecos	142	5,257
Penn, Ector	7,632	228,970
Taylor-Link, Pecos	5,249	157,460
Taylor, Taylor	99	2,961
Phillips-Pryor, Pecos	....	....
Toborg, Pecos	1,492	44,757
Waddell, Crane	30	885
Total April	314,560	9,436,801
Total March	335,892	10,412,647
Difference	21,332	975,846

ARKANSAS

Daily Average and Monthly Production in April

	Dly. av. (bbls.)	Month (bbls.)
El Dorado	3,977	119,310
Smackover, light	5,302	159,060
Smackover, heavy	40,414	1,212,420
Stephens	960	28,800
Nevada County	878	26,340
Lisbon	1,025	30,750
Bradley	80	2,400
Champagnolle	4,705	141,150
Mount Holley	141	4,230
Total April	57,482	1,724,460
Total March	58,641	1,817,871
Difference	1,159	93,411

NORTH LOUISIANA

Daily Average and Monthly Production in April

	Dly. av. (bbls.)	Month (bbls.)
Caddo, light	9,980	299,400
Caddo, heavy	2,675	80,250
Homer	3,472	104,160
Haynesville	4,529	135,870
De Soto-Red River	3,313	99,390
Elm Grove	430	12,900
Bellevue	623	18,690
Cotton Valley	2,147	64,410
Urania	5,260	157,800
Pleasant Hill	725	21,750
Zwolle	4,221	126,630
Holly	1,135	34,050
Sarepta-Carterville	3,440	103,200
Total April	41,950	1,258,500
Total March	41,015	1,271,465
Difference	935	12,965

GULF COAST

Southeast Texas

Daily Average and Monthly Production in April

	Dly. av. (bbls.)	Month (b ls.)
Allen	59	1,772
Barbers Hill	23,315	699,458
Batson	1,205	36,157
Big Creek	3,263	97,915
Blue Ridge	1,862	55,870
Brenham	141	4,215
Boling	1,153	34,590
Clay Creek	1,559	46,758

(Continued on Next Page)

	Dly. av. (bbls.)	Month (bbls.)
Damon Mound	537	16,115
DeWalt	10,381	311,427
Fannett	1,099	32,981
Goose Creek	4,814	144,440
Hankamer	989	29,675
High Island	1,771	53,133
Hull	8,780	263,399
Humble	17,768	533,036
Jasper County	24	725
Lost Lake	638	19,130
Markham	324	9,708
Nash	314	9,413
North Dayton	641	19,232
Orange	2,446	73,379
Orchard	1,887	56,601
Pierce Junction	10,631	318,925
Port Neches	1,845	55,335
Raccoon Bend	9,928	297,848
Refugio	39,487	1,184,615
Sheeks (Esperson)	3,244	97,309
Saratoga	1,052	31,572
Sour Lake	2,193	65,780
South Liberty	4,622	138,645
Spindletop	13,604	408,120
West Columbia	6,058	181,737
Total Southeast Texas	177,633	5,329,015
Total March	175,283	5,433,792
Difference	2,350	104,777

South Louisiana

Daily Average and Monthly Production in April

	Dy. av. (bbls.)	Month (bbls.)
Anse La Butte	39	1,162
Bayou Blue	89	2,681
Bayou Bouillon	720	21,619
Black Bayou	82	2,455
Edgerly	558	16,743
Jennings	929	27,873
Hackberry	3,652	109,573
Lake Barre	1,311	39,318
Lake Pelto	195	5,844
Lockport	2,786	83,570
Port Barre	1,982	59,464
Sorrento	128	3,831
Starks	470	14,106
Sulphur	4,256	127,675
Sweet Lake	120	3,598
Vinton	3,830	114,905
Welsh	175	5,243
White Castle	380	11,392
Total South Louisiana	21,702	651,052
Total March	21,665	671,628
Difference	37	20,576
Total Gulf Coast	199,335	5,980,057
Total March	196,948	6,105,420
Difference	2,387	125,363

SOUTHWEST TEXAS

Daily Average and Monthly Production in April

	Dy. av. (bbls.)	Month (bbls.)
Branyon	21	623
Buchanan	414	12,423
Bruner	20,464	613,919
Dale	348	10,438
Darst Creek	18,182	545,470
Kingsville	128	3,836
Larremore	54	1.622
Luling	9,569	287,065
Lytton Springs	821	24,631
Manford	847	25,405
McMullen County	38	1,190
Medina County	24	709
Mirando	8,747	262,406
Pettus	1,164	34,930
Somerset	1,535	46,038
Taylor	183	5,500
Yoast	571	17,125
Total April	63,111	1,893,330
Total March	63,793	1,977,584
Difference	682	84,254

COLORADO

Daily Average and Monthly Production in April

	Dy. av. (bbls.)	Month (bbls.)
Craig	951	28,530
Fort Collins	1,414	42,420
Florence	582	17,460
Iles	952	28,560
Tow Creek	477	14,310
Miscellaneous	77	2,310
Total April	4,453	133,590
Total March	4,654	144,274
Difference	201	10,684

NEW MEXICO

Daily Average and Monthly Production in April

	Dy. av. (bbls.)	Month (bbls.)
Artesia	759	22,770
Cap Rock (Maljamar)	906	27,180
Lea	5,768	173,040
Hobbs	553	16,590
Jal	1,397	41,910
San Simon	1,555	46,650
Rattlesnake	998	29,940
Table Mesa	107	3,210
Hogback	453	13,590
Total April	12,496	374,880
Total March	10,888	337,528
Difference	1,608	37,352

WYOMING

Daily Average and Monthly Production in April

Field—	Dy. av. (bbls.)	Month (bbls.)
Big Muddy	2,009	60,270
Lander	520	15,600
Dutton Creek	54	1,620
Elk Basin	767	23,010
Ferris	20	600
Frannie	188	5,640
Grass Creek	2,069	62,070
Hamilton	776	23,280
LaBarge	2,141	64,230
Lance Creek	179	5,370
Lost Soldier	3,031	90,930
Maverick Springs	....	.....
Mule Creek	....	.....
Oregon Basin	4,701	141,030
Osage	948	28,440
Poison Spider	523	15,690
Rock Creek	2,136	64,080
Salt Creek	30,786	923,580
Simpson Ridge	51	1,530
Teapot Dome	32	960
Total April	50,931	1,527,930
Total March	51,215	1,587,665
Difference	284	59,735

MONTANA

Daily Average and Monthly Production in April

Cat Creek	1,166	34,980
Kevin-Sunburst	6,389	191,670
Lake Basin	60	1,800
Pondera	2,332	69,960
Total April	9,947	298,410
Total March	8,631	267,561
Difference	1,316	30,849

PHILLIPS TO HAVE LINE OPERATING BY JANUARY 1

(Continued from Page 132)

transportation of Phillips products. The company has a 15,000-bbl. refinery at Borger, Tex., which is constantly being increased in capacity. The immediate plans call for the construction of a plant with a capacity between 20,000 and 25,000 bbls. daily. In addition, the company has a number of natural gasoline plants in the Panhandle. Approximately 10,000 bbls. daily of the company's natural gasoline production in that area will be available for shipment by pipe line.

Rush Completion

Surveys for this construction job have been completed, pipe purchased and delivery being rushed for actual laying. Construction operations have been separated into six sections to facilitate completion by around January 1, 1931. The construction program will require 100 inspectors and the labor of over 1,000 men; 100,000,000 pounds of pipe will be required, which will be fusion weld. The pipe will be fully concealed, including river crossings. The pipe covering will be between 24 and 36 inches.

The line will run northeast from Borger, Tex., through Oklahoma and Kansas to Wichita, thence on to Kansas City and direct to St. Louis. Ten pump stations, equipped with either electric motor driven centrifugal pumps or Diesel type including safety and fire devices, each of 800 pounds pressure will insure a uniform and constant rate of flow through the line. Distributing terminals are provided at Wichita, Kansas City and St. Louis. The line is so designed and the operation so arranged, in connection with terminal storage facilities, as to permit the transportation of large quantities of different grades of gasoline, one following the other, without loss or intermingling. All construction incorporates the latest safety devices.

Terminal facilities at Kansas City have been arranged to permit of extension of the line north and east. Facilities at St. Louis include dockage on the river to permit barging gasoline as far north as Minneapolis and St. Paul, where the Phillips Petroleum Co. has a large distribution unit for the northwest territory. The St. Louis dockage also permits of water transportation to Memphis and New Orleans and via the Ohio River to Louisville, Cincinnati and Pittsburgh.

In addition to adequate storage facilities at all terminals, complete provision has been made for peak load demands. All terminals will be fully equipped to handle the gasoline by pressure and gravity flow, thus making prompt and economical shipments to adjacent territory by truck or combination truck and rail haul. Modern tank wagon truck and truck trains consisting of one or more trailers will be used.

Bulk Stations

Bulk stations will be placed approximately 50 miles apart for the entire length of the line to serve the adjacent territory. Phillips' gasoline will be "pulled out" of the line into these bulk stations for distribution by tank wagon, truck train or rail in the same manner as at the Wichita, Kansas City and St. Louis terminals, eliminating the previous necessity of pumping into tanks and pumping out, with its attending loss.

The line has been designed as a closed system, eliminating the possibility of loss by evaporation or fire hazard and will be divided into 20-mile sections, each policed by a line walker who will inspect his section once a day. A telephone line for which 1,300,000 pounds of copper and 25,000 poles will be required will parallel the entire system, interconnected with the 10 pump stations. Line walkers will carry extension telephone rods, affording them instant communication with the nearest pump station in making reports.

The long experience of the Phillips Petroleum Co. in transporting crude oil and natural gas by pipe line has been applied to the engineering presented by this natural and refinery gasoline pipe line. Many surveys and over two years' time was devoted to the proposal before it was presented for final approval.

When completed this line will serve as a main artery of the Phillips' system of distribution of finished gasoline to a large marketing area where the company has already over 8,000 retail outlets, and is expanding retail facilities. Crude will be refined at its source of supply in Texas and transported as finished gasoline to the consumer under Phillips control all the way, as compared to the present method of transporting crude to the refinery and reshipment of refined products. The line itself will hold 10,080,000 gallons of gasoline.

PURE OIL ADVANCES PRICE IN MT. PLEASANT

MUSKEGON, Mich., June 9.—The price of crude oil has been advanced in the Mount Pleasant Field by the Pure Oil Co. from $1.35 to $1.55, the highest it has been for several months.

A year ago the price was $1.70. It was dropped to $1.50 and later to $1.15 resulting in a curtailment of drilling activity and a temporary proration of production by the Pure Oil Pipe Line Co.

Announcement that an independent gathering line system was to be laid in the field to run oil to an independent refinery to be moved from the Muskegon Field was followed by an increase of 10 cents from $1.25 to $1.35 a barrel by the Pure Oil Co. The pipe line and refinery are now nearing completion.

The Simrall Pipe Line Corp., operators of the independent line, announced that they would pay $1.55, or 30 cents more than the last prevailing price of $1.25. The Roosevelt Oil Co., under which name the former Michigan Central Refining Co. plant, of Muskegon, will be operated, will refine the oil purchased by the Simrall Pipe Line. Storage tanks are now ready to receive oil from the independent producers and the refinery is expected to be ready for operation within a week or 10 days.

CLAIM WORLD RECORD FOR TIME WITHOUT ACCIDENT

The Shell Petroleum Corp. is justly proud of two records made by departments in that organization believed to be world records for hours of work without accident.

Since November 24, 1928, there has not been a lost-time accident to any of the men employed in the Tonkawa district, Oklahoma, a total of 1,176,000 hours, approximately, as of June 1. When this record period was started there were 250 men employed in the Tonkawa Field and at this time there are about 150 men working there doing every kind of labor common to the production department in an active field. The other record of about 1,681,000 hours without accident has been set up by the Norco refinery of the Shell corporation located near New Orleans, La.

These records have been made possible by the careful supervision on the part of foremen and by the men themselves becoming enthusiastic over doing their work carefully. The Shell Petroleum Corp. officials give credit to the entire personnel of these two departments for these achievements.

The Tonkawa district has been awarded a large pennant bordered with stars, one for each month without accident, and now bearing 17 stars with ample room for many more, and it is predicted with the continued careful work on the part of everyone in that district this space will be completely filled.

Supervisory force of Shell Petroleum Corp. in the Tonkawa District, Oklahoma, who have been in charge of the work there during the record breaking safety period. From left to right: C. M. Copeland, superintendent; S. P. Jemison, head roustabout; J. M. Morgan, connection foreman; E. H. Farmer, gas engine and rig repair foreman; Harry Lay, farm boss; Ralph Payne, water and gas foreman; C. W. Winters, chief gauger; C. B. Thompson, office manager; Leroy Ulmer, warehouseman; M. J. Shippey, carpenter foreman; Charles Irwin, farmer boss, and R. M. Dannenberg, resident engineer.

INACTIVE REFINERY MARKET IN OKLAHOMA

(Continued from Page 28)

nounced it was conceded that this was a probable development before the end of the month.

May Reduce Runs

Information obtained from representative refinery executives in Oklahoma the first of the week indicated a willingness to reduce crude oil runs to stills provided refiners in other areas co-operated. It is conceded that a reduction in plant operations is the only possible solution to the present problem. It is needed not only to reduce heavy inventories of gasoline for the country as a whole but also to restrict the supply of all other products. No material improvement in the fuel oil and kerosene demand is expected over the next 60 to 90 days and in the case of motor fuels and motor oils immediate action is necessary if the market is to be stabilized for July and August, the two main gasoline consuming months of the year.

Mid-Continent Stocks

The situation in regard to Mid-Continent gasoline stocks is shown in the accompanying table along with crude oil runs to stills and gasoline production based on the April report of the Bureau of Mines. Although crude oil runs to stills and gasoline production were both greater than in April of last year stocks on May 1 were only 59,000 bbls. greater. This compares with an increase of 7,396,000 bbls. or 15.7 per cent for the entire country.

Although stocks in the Mid-Continent and the country as a whole continued to increase during May according to reports of the American Petroleum Institute, Oklahoma operators and those in adjoining states are in a position to improve prices just as soon as the threat of overproduction is removed.

In this connection, developments in the crude oil situation in Texas have been a factor in the weak refinery market during the past few days. One of the major crude oil purchasers in the North Texas and Panhandle areas will withdraw from the market effective July 1. The same company has also prorated some of its crude oil purchases in West Texas. The crude price in the areas concerned has not been strong and it is feared that it will result in excess supplies being thrown on the market under the prevailing posted prices.

Gasoline and Naphtha

U. S. Motor gasoline was available from several sources in the Mid-Continent on a basis of 6¼ and 6⅜ cents basis Group 3. A few resale purchases were reported under this price level which was generally accepted by those active in the spot market. The domestic market for the higher gravities is not active and less price cutting was reported.

Several refiners are still quoting their jobber customers over a price range of 7 to 7½ cents for the U. S. Motor grade. Spot sales at these prices were few.

The blending naphtha movement is largely confined to an intrastate movement.

Kerosene

Several sellers were offering the 41-43 water white grade of kerosene at 3¾ cents. Buyers in a position to take 10 or more cars for prompt shipment have attractive offers from refiners who wish to reduce their storage.

Those in touch with market conditions state that this excess material will have to be absorbed either in export or domestic channels before the kerosene market can be stabilized. One export inquiry for a high gravity grade was reported last week. So far as known, the business has not been placed.

Natural Gasolines

Natural gasolines were not as weak as the refinery grades. The strength is largely due to the buying of one or two of the large manufacturers with fair shipments on contracts.

Grade AA was fairly steady at 6 cents flat, that price being paid for spot shipments on Monday and Tuesday. Grade BB was not active with sales at 5¼ and 5½ cents.

Fuel Oil and Gas Oil

The industrial grades of fuel oil for interstate shipments regardless of the cold test were bringing from 50 to 55 cents the first of the week. The demand was not active at these low prices. A few refiners are refusing to consider business under 55 cents, believing that prices will improve later in the summer.

The demand for high gravity fuel oils and gas oils has been slow the past few days. The better grades of gas oil, however, are not being thrown on the market as there is a fair demand from furnace oil and cracking stock buyers.

Lubricants

With Pennsylvania bright stocks offered as low as 31 cents to middle western buyers, Oklahoma manufacturers are still quoting from 34 to 37 cents for domestic shipment. The movement naturally is confined to contracts and local buyers. Steam refined stocks are moving very slowly at present prices.

The 124-126 wax sold as low as 2 cents last week.

CONSTRUCTION-OPERATION

(Continued from Page 131)

in matters of vapor pressure, composition, initial, endpoint, recovery and residue. In the special product field, specifications are within closer ranges and little or no tolerance is permitted.

Propane is sold under given specifications. If the initial is too low the gas will fall short in B.t.u. If it is high due to the presence of butane or heavier fractions, the criticism will be made that it will not completely vaporize under certain conditions. The same is true with butane. If the vapor pressure is too high, these gases cannot be shipped or stored in the equipment especially designed for them.

In the solvent group, one of the important specifications is residue. This is measured in fractions of a per cent. Greasy residue in the material means rejection. This specification is not arbitrary. It is a necessity. It is up to the manufacturer to make such a product and competent inspection is required to make impossible the "sloppy" results that can mean only expense to the manufacturer.

With all of this supervision of an efficient product control scheme at the plants by plant personnel, one piece of final control has in many cases proved of intense value. Random retain samples of products shipped from each plant are dispatched to the central or research laboratory of the company and there tested under the supervision of what should be the best talent available. Not only is a check obtained on the plants, but "weakness" is promptly discovered, with the result that the plant or plants concerned may be given preferred attention to enable its personnel to step up to the company's standard.

To obtain new business, the company spends thousands in advertising and sales effort. To obtain new business, promises are made. It is up to the manufacturing department to deliver the goods sold if these efforts are to be made good. To this end nothing is more important than rigid inspection and control of all of the products manufactured.

Late Fields

(Continued from Page 40)

completed their second well in the Wanette-Asher area, which was opened about two months ago. The No. 2 Bullock, NE cor. SE NE Section 22-6-3, Pottawatomie County, drilled the cement plug and flowed 120 bbls. the first hour. 50 bbls. the second, 35 bbls. the third and 30 bbls. the fourth. The sand was found at 3,481-3,500 feet.

KANSAS

E. W. Marland, Inc., and Allison-Fitzwilliam Petroleum Corp.'s No. 1, NE cor. NW Section 8-15-14w, Russell County, a wildcat test, found water in the Silicious lime at 3,319-24 feet, and will be plugged back to the conglomerate. The well is estimated at 150 bbls. at 3,268-72 feet.

J. H. Tatlock, Shell Petroleum Corp. and others' No. 1 Tonn, in Section 17-25-4w, a Reno County wildcat, made two flows Monday, June 9, while the 6-inch casing was being underreamed. In order to make a production test it was necessary to lower the casing to the top of the sandy lime. The oil showing was found at 3,606-11 feet. How much the hole filled with oil before the test flowed is not known. The well was estimated to have flowed 25 bbls. into the slush pit.

A wildcat test north of the Voshell Pool, in McPherson County, was drilling in shale at 3,275 feet. The test was being drilled by the Darby Petroleum Corp. and others' No. 1 Decker, in Section 11-20-3w. The test had a showing of oil at the top of the Mississippi lime at 3,012 feet, and the bottom of the lime at 3,170 feet. Some express the opinion that it was a thin section of lime and that the test may find production in the deeper formations.

Umpire T. C. Johnson advises that the potential of the Voshell Pool in McPherson County for the period from June 1 to June 15, to be 43,000 bbls. from 69 wells. The average daily pipe line outlet for the current period will be 21,000 bbls., which is approximately a 48 per cent allowable production. Considerable difficulty was experienced in taking the potential tests due to mechanical failures which resulted in 14 wells being estimated. Necessary adjustments will be made as soon as these wells have established their potentials.

The present agreement for the Voshell area ends June 15 and a telephone canvass of the majority of the operators was unanimous for the 30-day extension from June 15 to July 15, on the same plan and regulations as existing at the present time. Considerable new development in the north end of the pool will undoubtedly hold the potential production up to the present figure for the next 30 days. Crude oil purchasing companies in the area are purchasing about 21,000 bbls. a day. Proration in the pool will be held to the daily pipe line outlet.

NORTH LOUISIANA

HOUSTON, Tex., June 10.—Wilson Broach's No. 2 Wilson, Section 33-10s-12w, northwest side of Edgerly Calcasieu Parish, Louisiana, created new interest in that old field with its completion Tuesday flowing and estimated 3,200 bbls. of oil from a sandy shale at 3,496 feet.

CALIFORNIA

LOS ANGELES, Calif., June 10.—New completion in Playa Del Rey Field, Los Angeles Basin, Star Petroleum Co.'s No. 1 Venice doing 1,500 bbls. of 23 gravity oil and 1,500,000 feet of gas daily from 6,296 feet; tubing pressure 275 pounds, casing 1,050 pounds.

BAKERSFIELD, Calif., June 10.—Shell Oil Co. cored an oil sand in No. 1 Porter Day, a wildcat in the Weed Patch area southeast of Bakersfield at 4,960 feet but the extent and thickness of sand is unknown due to unsuccessful recovery of two previous cores. If Shell opens up a new field in Weed Patch area it should control a large part of the productive acreage as it holds leases and options on about 3,000 acres. Shell drilled a duster in Section 33, about one-half mile southeast of present hole, and abandoned it last year around 4,200 feet. This hole, No. 1 Goff, may not have been carried deep enough although correllation work indicates present test is located higher on structure. The core taken from No. 1 Porter Monday night looked exceptionally promising, especially in view of amount of gas present. Shell officials are very reticent to release any information on present status of new well but a personal viist of inspection indicates that it will bear watching even though only a limited amount of sand has been cored up to present.

Later reports say further coring has revealed additional thickness of oil sand and preparations are being made to conduct an early production test. Gas has been successfully mudded off and casing for shut off is being hauled to well. Outlook for production quite promising.

ENJOINED FROM TOO RAPID PRODUCTION

BRADFORD, Pa., June 7.—Through a temporary injunction issued yesterday afternoon against the Petroleum Reclamation Co. by Judge J. W. Bouton in Smethport, the company must cease using water under pressure in wells on the Mortimer Soule property.

Soule had sold a tract of 116 acres of oil land in February, 1925, to the Petroleum Reclamation, on an agreement whereby a mortgage covering 20 payments were to extend to 1950. The company has been drawing large quantities of oil from the property and the plaintiff brought action against them to protect his interests in forthcoming payments. He feared that within a comparatively short time the producing sand of the tract would be exhausted.

The company is utilizing the "five-spot" flooding process in forcing the oil from the ground, which calls for additional pressure applied by the use of air compressors. At the time the property was sold, little was known of the improved flooding methods now being used. If the sand should be drained before 1950 it was intimated that there would not be sufficient oil remaining to secure the mortgage.

The Reclamation company claimed that there was no occasion for misgivings as to its ability to meet all obligations involved and technical experts were called to give their opinion regarding the probable life of oil production in the tract.

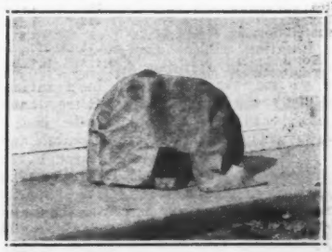
Under the injunction, the Petroleum Reclamation may still "five-spot" the property but cannot use water under additional pressure. It is said that the additional pressure used has been as great as 600 and 700 pounds, forcing large quantities of oil from the sand into the oil wells. By the use of the pressure and "five-spot" system the Petroleum concern had taken approximately 84,000 bbls. of oil from the property since the first of the year and resulted in the action by Soule.

Bond Would Be $50,000

It was intimated by Judge Bouton that if the Petroleum Reclamation wanted the injunction dissolved, he would do so if they would put up a bond in the sum of $50,000 to protect the mortgage, the unexpired value of which is in the neighborhood of $69,000.

In the meantime, Gallup and Potter of Smethport and P. J. Quigley of Olean, attorneys for the Petroleum interests will continue their fight to have the injunction revoked with the final decision, which is expected within a few weeks.

REMOVABLE COVER



It is frequently necessary to make a removable cover for some piece of equipment around a pump station or lease and this cut shows one means of doing it.

This cover, for a small electric motor, is made out of old canvas that has been painted until the cloth is stiff enough to stand alone. The pattern can be varied to suit the particular piece of apparatus and old pieces of cotton duck canvas can be cut and sewed together, and then painted inside and out until the cloth is thoroughly saturated.

WEST TEXAS SCOUTS HAVE THEIR TROUBLES IN NEW EASTERN AREA

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

TYLER, Tex., May 19.—Prior to October 14, 1929, when the Pure Oil Co. brought in its Woodbine sand discovery well in the Nacogdoches County School Land Survey near the town of Van in Van Zandt County, East Central Texas, there were probably not more than five oil scouts "beating about the bushes" in that district ferreting out the few wildcat tests which were being drilled in the hopes of striking a salt dome which might pay off, or hitting a fault which would prove productive.

But this picture of 25 oil scouts and land men working for the various companies which have district offices at Tyler, tells a story which deals with plenty of activity in the surrounding territory, and proves that the companies are especially interested in that district. A desire for information on all tests drilling, and to be drilled, all core drilling and geophysical exploration, lease trading and royalty buying, and the blocking of acreage, prompted many companies to move scouts into this district where activity was recently renewed by the above mentioned discovery. As the oil scouts have truly been called, "the eyes and ears of the oil industry," it appears that the companies, which these men represent, do not want to overlook a thing or miss hearing any rumors that might take shape and develop into buying or drilling activity. The oil scout is believed to "know all and see all" that goes on in his territory, and if he misses reporting an important marker or showing of gas or oil in a test he may rest assured that such a discrepancy will not soon be forgotten.

Need Horses in That Area

The oil scouts have also been called, "the cavalry of the oil indutry," and many of these men no doubt have wished many times that they were really mounted on sure-footed horses instead of trying to herd one of the new model low-slung automobiles which are made for pavement driving instead of high-centered and stump-infested trails over which they have to navigate. Then, too, a horse can easily pick his way through the mire and bogs in which the men often sink into with their cars when the roads become almost impassable after an East Texas water-spout, and at which time they would truly give "their kingdom for a horse."

Like a New Job

Many of the scouts now working in this district have been transferred from West Texas where the wide open spaces are awe-inspiring, and where the wildcat derrick looms up on the distant horizon like a lighthouse in the fog, consequently they are as lost as the babes in the woods until they become acclimated to the hills and forests of their new domain, and learn the ways and means of finding their way around in the muchly different territory.

Locating wildcat rigs in East Texas oftentimes is a rather difficult job, for a rig may be built down in a ravine, entirely surrounded by tall trees and underbrush, and a scout can be just a few yards from his object of search and still not be able to see it through the the trees, or because of an intervening knoll or embankment. Unless he happens to shut off the motor of his car and hears the rotary machinery clanking and rumbling, he may pass up the test at that time, and he may at first rejoice thinking that he has at last made the discovery, but upon driving over to the scene of the noise he is greatly chagrined to find a saw mill in action, or a narrow-gauged lumber train puffing and chugging back and forth on its many daily tasks.

East Texas oil scouts will tell you that it takes a backwoodsman to find some of the wildcats in their district, and if a scout has been broken in and trained in scouting in the plains districts, he will admit that he almost has to learn all over when transferred to such a very different territory where the terrain, vegetation, roads, trails, homes and even the people form a great contrast to those with which he has been familiar.

Geology Is Different

Another item which makes a transfer rather difficult is the difference in formations and geologic markers found in the widely separated districts. The West Texas scout has to forget the brown, gray and white lime markers when he goes to East Texas, and has to learn the Pecan Gap and Austin chalks, and the Reklaw, Carrizo and Wilcox formations of the Claiborne group, and be especially versed in the art of picking out the Woodbine sand which is the producing formation in his new territory.

Rotary drilled tests may also be called more difficult to scout than cable tool tests, and as East Texas is entirely drilled by rotaries it is up to the West Texas transferee to learn to count fourbles of drill pipe instead of walking up on the derrick floor as he has been accustomed to doing and with a big grin for the driller and tool dresser, say, "How deep are yuh?" If the information is not readily forthcoming he may reach in one of his pockets and produce a couple of "El Ropos" or hand the men a newspaper which immediately breaks down the barrier of reserve, and paves the way for further questioning and obtaining more information about the test, but on some of the East Texas tests the scouts have been somewhat abashed by finding the tests roped off to all comers, and no information available at all. This is rather exasperating to the West Texas trained scouts for in that vast expanse of mesquite-covered sand and caliche there were but few tests ever drilled on which the scouts were denied information, and where none of the fields was blanketed by reticence as the Van Field now is, and where no information on locations, drilling or completions can be obtained, whatsoever.

Men who have been transferred from the one district to the other have also noticed the difference in altitude and climate, for as West Texas is 1,800 feet and above, East Texas is around 550 feet and even less, and the former's climate is rather arid, whereas the latter is rather humid, but a scout is trained to put up with all kinds of living conditions and climates, and has to be ready to be transferred from one place to another, and from one part of the country to another like a soldier, and consequently adjusts himself to his new environment, and again like the soldier is always "griping" but does not mean anything by it, and oftentimes the biggest "griper" is the best scout.

You will always find them a good bunch of fellows and great adherents to the "hail fellow well met" rule, consequently they are better able to co-operate with each other in their work, meet the men from whom they have to obtain their information, and likewise render their respective companies the best of service in getting the "dope."

UNIT OPERATION BILL NOW BEFORE CONGRESS

WASHINGTON, D. C., June 7.—Chairman Colton of the house public lands committee has introduced a bill to permit the Secretary of the Interior to enter agreements with lessees of public lands for the curtailment of oil and gas production.

The bill, introduced at the request of Secretary Wilbur, would amend the leasing act to permit him to approve unit and co-operative plans for orderly production. It would at the same time permit him to extend the leases to prevent losses to operators through their co-operation with the Government.

Operators entering unit or co-operative plans, Mr. Colton explained, agree to produce oil or gas in relation to market demands, thus eliminating costly competition.

In a letter to Chairman Colton, Secretary Wilbur said that aside from the general good to be obtained, development and operation of oil fields under such plans would result in lower costs to the producer, greater ultimate recovery of oil and gas, larger royalty returns to the Government through the increased recovery of oil and gas, and "most important, will tend to the avoidance of waste in times of oil production now constantly occurring from so-called checkerboard, town lot, or property line drilling."

STANPAC LINE IN OPERATION

LOS ANGELES, Calif., June 7.—Rapid progress is being made in the extension of natural gas transmission lines to serve central and northern California from Kettleman Hills. That section of the San Joaquin Valley natural gas line being constructed under joint ownership of the Standard Oil Co. and the Pacific Gas & Electric Co., and known as the "Stanpac" natural gas line, has been placed in operation from the Kettleman Hills to Pittsburg.

It consists of 126 miles of 26-inch pipe, 15 miles of 22-inch and 25 miles of 24-inch pipe. This will complete a second line into the metropolitan bay area and will tie in with the Pacific Gas & Electric Co.'s coast line, which was put into operation last fall.

MONTANA LINES

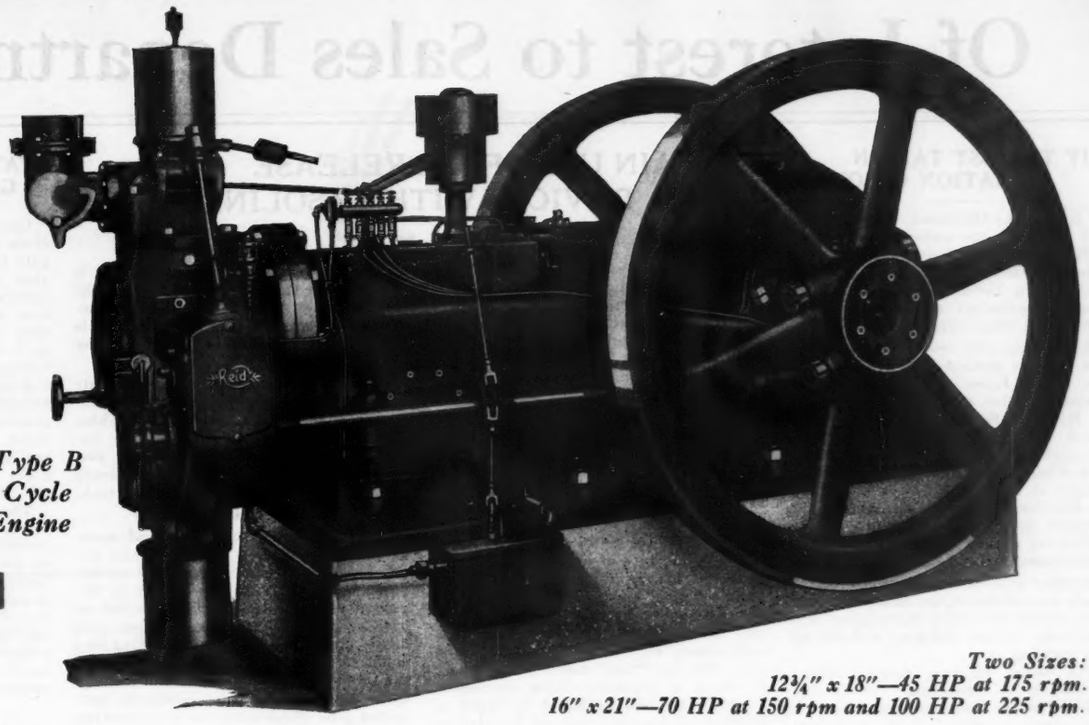
CASPER, Wyo., June 7.—Work on the new gas line from the Glendive Field to Williston, N. D., is making good progress. The Hope Engineering Co. states that the line will probably be ready to supply gas to the cities and towns along the route by the first of July.

The Cut Bank Utility Co. expects to start laying a pipe line from the Drumheiler well north of Cut Bank to that city in the near future. This line will carry gas from the well to the city of Cut Bank.

BOLIVIA-ARGENTINE PIPE LINE

WASHINGTON, D. C., June 7.—The Bolivian government plans to send a commission to Argentina to treat with the Argentine government regarding the laying of a pipe line through Argentine territory for the transportation of oil to be produced in Bolivia, east of the Andes, Vice Consul Trueblood reported to the Department of Commerce.

Oil scouts checking reports at Tyler, Tex. Front row, left to right: "Buster" Matkins, Empire Gas & Fuel Co.; Joe Walters, Louisiana Oil & Refining Co.; Bob White, Prairie Oil & Gas Co.; Pete Johnston, Simms Oil Co.; Jake Saulter, Pure Oil Co.; Benton Vernon, Southern Crude Oil Purchasing Co.; "Doggie" Grim, Tidal Oil Co.; Bob Lipscomb, Tidal Oil Co.; Ed King, Phillips Petroleum Co. Standing, left to right: Jesse Poulton, Deep Rock Oil Co.; "Boots" Fulton, Shell Petroleum Corp.; Frank Foster, contractor; Hooper DuVal, Arkansas Natural Gas Co.; "Red" Selby, Vacuum Oil Co.; Bill Leisk, Shreveport-El Dorado Pipe Line Co.; "Mac" McMahan, Transcontinental Oil Co.; Don Reese, Sinclair Oil & Gas Co.; Claude Strahan, Atlantic Oil Producing Co.; Jerry Baldwin, Mid-Kansas Oil & Gas Co.; Jess Hamilton, Sun Oil Co.; "Cass" Castle, Dixie Oil Co.; Donald Mathews, Republic Production Co.; Pearl Bellard, Dillard & Co.; "Swede" Swenson, Mid-Continent Petroleum Corp.; Hillery Hebert, Gulf Production Co.; T. C. Cash, Humble Oil & Refining Co.; "Brownie" Brown, Shell Petroleum Corp.; George Hanna, Humble Oil & Refining Co.



Reid Type B Four Cycle Gas Engine

Two Sizes:
12¾" x 18"—45 HP at 175 rpm.
16" x 21"—70 HP at 150 rpm and 100 HP at 225 rpm.

Sustained Power for the Oil Fields in an Economical Engine

In the oil fields of the East, in the oil fields of the West—wherever the fly-wheels of Reid Type B Four Cycle Gas Engines are whirring 'round and 'round—there producers and lease men know the worth of sustained power. They have Type B engines pulling alike, with the ease which tells of balance and reserve strength, loads that are continuously heavy or widely irregular. Turning over smoothly and steadily, day after day, year in and year out, their Type B engines do the work with a quiet power that produces efficiency and economy along with the oil.

Catalog No. 46 Gives Mechanical Description in Detail

JOSEPH REID GAS ENGINE COMPANY
OIL CITY, PENNSYLVANIA, U. S. A.

BRANCHES—Marietta, Newark, and Logan, Ohio; Charleston, W. Va.; S. R. Shoup, 724 Board of Trade Building, Los Angeles, California.

EXPORT SALES REPRESENTATIVE—Oil Field Equipment Co., Inc., 30 Church Street, New York City.

DISTRIBUTORS—Frick-Reid Supply Corp., Pittsburgh, Pa., and Tulsa, Oklahoma, Distributors for Bradford and Pittsburgh, Pa., Muskegon and Mount Pleasant, Mich., Kentucky, Oklahoma, Kansas, Texas, Arkansas, Louisiana, and Wyoming; R. B. Moore, Bolivar, N. Y.; distributed in California by The Republic Supply Co. of California, Los Angeles, Cal.

Of Interest to Sales Departments

SUIT TO TEST TAX ON AVIATION GASOLINE

A suit in the Oklahoma state supreme court to enjoin the collection of tax on gasoline used by airplanes engaged in interstate commerce was decided upon at a meeting in Tulsa last week at which all of the principal air transport lines in the State were represented.

The decision was reached after every other possible method of relief had been gone into. Lines represented at the meeting included the Safeway, Western Air Express, Southern Air Transport, United States Airways, National Air Transport and the T. A. T. The meeting was held in the office of A. F. Winn, manager of aviation sales for Skelly Oil Co., who for six months has led a fight to relieve the air transport lines of the gasoline tax burden and who called Wednesday's meeting.

No effort will be made to collect taxes already paid although tax now being paid under protest by some of the lines will be refunded in the event of a favorable court decision.

"The course we have decided upon," said Mr. Winn, spokesman for the operators, "is the quickest and most effective route to take. Under a special statute the action will be given precedence upon the supreme court docket. This step we are taking is only for the relief of air transport lines engaged in interstate commerce. Obviously it is unfair to tax such gasoline when the vehicles consuming same make no use whatever of the state highways. I am sure it was not the intention of the law to impose a burden upon aviation but at the time the law was devised aviation was scarcely in the picture and therefore no one could anticipate the great strides it was to make. It is true that the State now grants a refund on gasoline purchased within the State but consumed outside of the State. Most of the lines are getting part of their tax back through this method. If we are successful with our action in the supreme court, the lines will be given instant relief from the present 4-cent tax."

PURE BUYS MILLS COMPANY

NEW YORK, June 9.—Pure Oil Co. is planning an extensive expansion of marketing operations in New York State, through utilization of the State Barge Canal. The company has just purchased at a reported price of $1,000,000 the C. E. Mills Oil Co. of Syracuse, operating a number of retail stations and bulk plants in the vicinity of Syracuse. The Mills properites will be used as the nucleus for the territory, with shipments made over the Barge Canal.

A number of other leading oil companies, including Sun Oil, Richfield, Standard of New York, and others are utilizing the Barge Canal regularly and a number of special tankers have been placed in the service. These barge tankers are of special construction, with virtually no superstructure, to enable their passage under low bridges along the canal.

THE I.O.M.A. FALL MEETING

CHICAGO, June 7.—The 1930 Marketing Congress and Exhibit of the Independent Oil Men of America will be held this year at the Hotel Statler, St. Louis, Mo., on November 2, 3, 4 and 5. The plan for the displays which won the approval of exhibitors during the past two meetings of having the exhibits installed in separate rooms will be followed at this meeting. A complete convention program will be planned including entertainments of various kinds.

EXPLAIN USE OF AIR RELEASE DEVICES WITH GASOLINE PUMPS

By A. W. Schwartz*

In making sales of gasoline at a supply or service station it is not only desirable but essential to expedite the delivery, and it is, therefore, an advantage to the trade to have suitable supply pressure as well as to operate the device at its maximum delivery on all occasions. To this end have been devised various types of power-driven meters. The flow meter was the first in the field. Within the past year there has been a trend toward displacement or volumetric metering pumps. This started first with one, and now most of the leading pump manufacturers have a device of this type on the market or in the experimental stage.

While this type of pump has many advantages that insure its superiority over the old "blind" pump with its leaky foot valves and worn suction leather, the "visible" pumps with their two-way valves and remote control on the nozzle, and even over the "flow" meter pump whose accuracy is dependent upon by-passing a certain amount of liquid to make up deficiencies that are caused by the inability of a flow meter to register 100 per cent of the delivery, it has an inherent weakness that is present in all pump devices and that is the inability to pass off air in the line and measure only gasoline. A measuring chamber will record as full capacity of fluid whether there is no gasoline in it or whether it is full or half full of air.

The latest step in the progress toward 100 per cent accuracy is the air-release device. This apparatus has appeared on the market within the last year. A pump with an air regulator, release, or whatever a manufacturer desires to call it, will extract the air and insure that only fluid enters the measuring chamber. It is claimed that the device thus removes the last weakness in the pumping performance and that the purchasing public is sure of a full quantity of gasoline being delivered to the car.

There are a number of reasons why air enters the gasoline line between the underground tank and the meter—leaking lines, loose connections, air pockets, excessive lift, mechanical leaks, leaky foot valves and line valves, low level of liquid in the storage tanks, or an empty tank.

Poor Installation

It is well known to weights and measures men that many of these faults are attributable to poor installation of the pumping unit. Tanks are placed in the ground rapidly with the fill shoveled on hastily; rain will settle the dirt and cause pipe lines to shift, straining the connections; the same rain may settle the dirt under the pump pedestal causing it to go out of plumb; carelessly connected pipe lines, with too little litharge at the threads, may spring a leak under pressure. Operating a pump at night means that the operator at the nozzle is unaware of the fact that his gas level has dropped too low to give the necessary lift, or the tank may have gone dry. All of these factors make it possible for the automobilist, the man who pays for a certain amount of gasoline, being defrauded, intentionally or unintentionally, by the station attendant. The fact remains that he pays for more gasoline than he receives, whether the short measure is premeditated or is accidental.

It has been contended by some that the installation of the air release or regulator on the gas line before it reaches the meter will eliminate this "short measure." From blueprints and diagrams the

(Continued on Page 166)

*Department of Weights and Measures, State of New Jersey. Paper presented at Third National Conference of Weights and Measures, Washington, D. C.

STOP HIS USING "ETHYL" OR WORD "ANTIKNOCK"

J. Merrell Redding, of Dallas, Tex., doing business as Ethyl Gasoline Co., has been ordered by the Federal Trade Commission to stop employing the word "ethyl" in the advertisement and sale of a product designated "Ethyl Gas" or "Ethyl Gas Antiknock" and used in treating motor fuel and gasoline.

The commission found that at the time Redding adopted the trade names containing the word "ethyl," the Ethyl Gasoline Corp. of New York was and had been using the same word in the sale of an antiknock fluid or motor fuel. Redding is also barred from use of the word "antiknock" in his advertising and selling unless and until his product actually contains ingredients which when mixed with motor fuel or gasoline produce antiknock properties.

Selling, leasing or otherwise furnishing to dealers signs for gasoline pumps similar in general appearance to signs supplied to dealers for the same purpose by competing distributors or sellers of motor fuel or gasoline is also prohibited in the commission's order to Redding. Likewise Redding is directed to cease copying in dress or general appearance the signs, circulars or other advertising of competing distributors or sellers of motor fuel or gasoline.

Findings of the commission show that the respondent furnished his customers signs to be placed on gasoline pumps similar to the signs used by and furnished to the dealers in the product of the Ethyl Gasoline Corp. of New York so as to deceive the public into believing that his product was a product of the New York corporation. That Redding so colored his product that when mixed with gasoline the resulting fluid was similar in coloring and could not be distinguished from the product of the Ethyl Gasoline Corp. of New York, thereby deceiving the public into believing that his product was that of the New York concern, is also revealed in the findings.

Redding also was found to have simulated the advertising copy of competitors. The commission held that these practices "have the capacity and tendency to and do cause retail distributors and the consuming public to confuse respondent's said product with the product of respondent's several competitors and are carried on in violation of the Federal Trade Commission Act.

OILS AND CANCER

Refined petroleum oil used medicinally will not cause cancer, according to the findings of Dr. Francis Carter Wood of the Columbia University Institute of Cancer Research, in a report to the American Medical Association.

According to reports in medical circles, the fact that cancer often attacks human beings as a result of handling lubricating oils has caused considerable alarm among users of mineral oil for medicinal purposes, and the American Medical Association research was undertaken to show that there is no ground for this alarm.

STATES INVESTIGATING GASOLINE BOOTLEGGING

Gasoline tax department officials of Indiana and Illinois have united to investigate the activities of a gasoline bootlegging ring which they say has peddled hundreds of thousands of gallons tax free, causing a loss to the states running into tens of thousands of dollars. It is believed the source of supply is in Chicago.

Indiana officials already have obtained $10,000 in back taxes and fines from the proprietor of a South Bend filling station chain who escaped paying the gasoline tax by importing 26 tank cars of low grade gasoline labeled "distillate." He still faces criminal prosecution.

The State's legal department has been asked to determine the possibility of prosecuting wholesale gasoline tax dodgers on the charge of embezzling State funds. Archie N. Bobbitt, Indiana state auditor, is quoted as saying "the gasoline tax law is ineffectual as far as criminal penalties are concerned." This law provides for a $1,000 fine for a corporation or six months jail sentence for an individual convicted of dodging the tax.

"NAPHTHA" PRODUCTS MUST CONTAIN NAPHTHA

"Naphtha" as a description for soap products will no longer be used by a manufacturing corporation to describe a product in the form of powder, flakes or chips.

Signing a stipulation with the Federal Trade Commission the company also agreed to cease and desist from use of this word to describe a soap in the form of bars or cakes, unless there be put into such soap upon its manufacture a quantity of naphtha sufficient in amount so that it will retain an amount of naphtha in excess of 1 per cent by weight of the soap up to the time it is sold to the public.

If necessary there will be incorporated in such soap upon manufacture, ingredients other than naphtha which will retain the naphtha also placed therein, or prevent its rapid volatilization.

NEW GASOLINE SOURCE

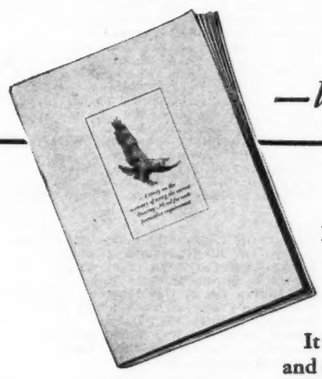
Addressing the National Research Council at Ottawa recently, Dr. E. H. Boomer of the University of Alberta stated that gasoline in almost unlimited quantities could be commercially produced from the northern Alberta, Canada, tar sands. The new method of treatment has been developed by Dr. Boomer and Dr. K. A. Clark, also of the University of Alberta. A semicommercial plant is now in operation in the field. Dr. Boomer states that by the application of hydrogen, obtainable in enormous quantities from natural gas available in Alberta, the bitumen is hydrogenated and produces a light oil which readily cracks to yield gasoline.

W. P. Hinton and associates, and Max W. Ball of Denver are applying for leases on tar sand acreage with a view to commercial development. If the leases are granted, experimental plants will be set up this year.

WILL LICENSE CURB PUMPS

The committee of the Common Council which has charge of all matters connected with distribution of oil in Chicago, is preparing and will very shortly present a measure calling for the licensing of curb pumps. There are over 800 in the city and the number is growing. It is proposed to charge an annual license fee of $100 for each pump.

Three bearing metals that meet 95% of all bearing needs



—let us send you this FREE *book*

If you wait for an important bearing to go wrong and tie up your plant, it will be too late to look inside the covers of this interesting little book we are now offering free to bearing metal users.

It will be too late, that is, as far as that *particular* bearing and expensive delay is concerned.

But you will learn things there about the Eagle Bearing Service that will make you wish you had had the book earlier. For instance, how this service has developed three scientifically designed bearing metals that meet 95% of all bearing requirements. That will enable you to standardize on bearings to ensure smooth plant running—and actually save you money.

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EAGLE Bearing Service

1 *Eagle Dreadnaught High-Speed Bearing Metal*—for extreme speed and heavy pressure conditions.

2 *Eagle Outlasta General Service Bearing Metal* — for average speed and pressure conditions.

3 *Eagle No. 4 Durable Bearing Metal* — for the less severe bearing requirements.

JERGUSON

REFLEX GAGES

have been used for steam boilers for 25 years and are now being used by leading oil companies for indicating oil levels in tanks, towers, stills, etc.

The *empty* space appears WHITE

The *oil* shows BLACK

They are safe and durable at the highest pressures and temperatures. We can furnish gages for every type of service. Full information upon request.

JERGUSON GAGE & VALVE CO.

MYSTIC AVE. AND NORTHERN ARTERY
SOMERVILLE, MASS.

TEXAS GROSS PRODUCTION, FIRST QUARTER OF 1930

The gross crude oil production of Texas of the companies making reports for the first quarter of 1930 is given below. The record is made up from the reports filed with the state comptroller.

A

Name and address—	Barrels	Value
Arnold, J. L., et al, Eastland (12-31-29)	827.07	$1,053.43
Alamo Oil Co., Brownwood	397.06	476.40
Ada Belle Oil Co., Batson	17,170.08	18,367.21
Acorn Oil Co., Beaumont	9,141.03	10,007.13
Arkansas Fuel Oil Co., Shreveport, La.	126,429.00	170,172.67
Anderson-Drewery Corp., Cisco	2,332.00	3,102.29
Argus Oil Co., Inc., Brownwood	261.31	298.15
Ama-Gray Oil Co., Amarillo	3,722.76	5,165.57
A & P Production Co., Houston	27,703.50	28,436.58
Ashe Syndicate, Fort Worth	1,030.84	1,445.12
Alworth-Stevens-Hild Co., New York, N. Y.	1,408.82	1,056.61
Arab Gasoline Corp., Eastland	3,569.65	5,557.24
Alamosa Oil Co., Amarillo	9,363.65	7,920.90
Adamson, Peter, Jr., Tulsa, Okla.	458.00	520.52
Amicable Life Insurance Co., Waco	380.00	380.00
Ailes, J. W., Wichita Falls	927.35	1,241.86
Atkinson & Sandifer Oil Corp., Breckenridge	9,858.07	13,626.65
Amarillo Oil Co., Amarillo	1,443.74	1,183.87
Arrow Head Oil Co., Dallas	828.06	1,003.11
Aarco Oil & Gas Co., Baltimore, Md.	7,531.84	10,222.91
American Refining Properties (RMW), Wichita Falls	1,660.64	2,196.00
American Refining Properties (NBC), Wichita Falls	1,314.34	1,764.50
American Refining Properties (MJB), Wichita Falls	3,384.51	4,755.54
American Refining Properties (WMP), Wichita Falls	6,689.92	8,629.39
Abbott, R. W., Beaumont	1,329.21	1,395.66
All-American Oil & Gas Co., Oklahoma City, Okla.	66.00	80.80
Anchor Oil Co., Dallas	776.90	988.15
Adams & McGahey, Amarillo	5,635.98	4,154.98
Adams & Prince, Amarillo	16,680.28	21,204.03
Anderson-Prichard Oil Corp., Oklahoma City, Okla.	195.17	264.57
Arcadia Refining Co., St. Louis, Mo.	22,171.17	26,748.09
American Maracaibo Co., New York, N. Y.	122,665.65	95,114.29
Apple-Brandeberry Oil Co. et al, Wichita Falls	10,486.56	13,816.58
Atlas Oil Corp., Humble	1,815.00	1,905.00
Art & Taxman, Wichita Falls	4,619.90	6,373.31
Abraham, Earl, Bridgetown	680.67	1,032.51
Andrews, W. R., Dallas	1,056.35	1,335.04
Allaun, W. E., Atlantic Keystone Petroleum Co., Bolivian Petroleum Co., Fort Worth	1,133.11	849.83
Abercrombie, J. S., Co., Houston	74,306.77	78,721.26
Alaska Petroleum Co., Amarillo	1,312.32	1,366.48
Ames, E. W., et al, San Antonio	77.89	98.52
Arab Gasoline Corp., Eastland (12-31-29)	2,097.99	3,619.03
Arab Gasoline Corp., Eastland (9-30-29)	4,251.60	7,453.05
Arab Gasoline Corp., Eastland (6-30-29)	3,671.34	6,487.26
Allday Oil Corp., Wichita Falls	289.48	292.67
Atlantic Oil Producing Co., Dallas	620,488.62	518,719.19
Adams & Lyles, Lockhart	2,638.98	3,245.94
American Refining Properties, Wichita Falls	48,137.12	52,120.07
Arco Oil Co., Wichita Falls	16,118.45	15,006.77
Adams, Dr. W. B., Wichita Falls	493.71	525.34
Artex Oil Co., Wichita Falls	1,035.92	1,340.39
Amerada Petroleum Corp., Tulsa, Okla.	277,709.75	239,810.44

B

Beaver Oil Corp., Oklahoma City, Okla.	4,086.86	4,383.54
Brown, Dr. E. W., estate, Orange	496.78	521.61
Brown, Mrs. Carrie L., et al, Orange	13,562.44	14,899.98
Brown & Guinn, Wichita Falls	4,616.55	8,086.26
Big Indian Oil & Development Co., Gainesville	992.14	1,359.23
Bullington-Clark et al, Wichita Falls	5,888.16	6,097.49
Bourbon Royalty Co., Dallas	3,292.92	3,974.06
Brown Farm Oil Co., Wichita Falls	2,024.84	2,835.68
Bluebonnet Oil Co., Wichita Falls	616.94	808.79
Bowman Oil Co., Rockdale	557.77	698.40
Biggs Oil & Gas Co., McKinney	835.00	1,161.62
Baker, James Blair, Jr., and C. F. Camp, trustee, Wichita Falls	17,010.42	22,221.28
Baker, James Blair, Jr., and C. F. Camp, trustee, Wichita Falls	2,360.20	3,099.34
Bexata Oil Co., San Antonio	1,195.31	1,298.51
Beggs, George (Strip), Fort Worth	1,490.73	2,487.53
Baker, J. A., and Mollie B., Breckenridge	5,967.00	7,160.40
Baker, J. F. and H. E., Breckenridge	1,644.00	2,055.00
Baker, Mollie B., and Fred R., Breckenridge	827.00	1,032.75
British American Oil & Gas Co., Tulsa, Okla	470.46	550.73
Bryson Oil & Gas Co., San Angelo	17,060.00	26,463.90
Bartlett Production Co., Rockdale	683.89	843.10
Buchanan, A. A., San Antonio	2,227.50	2,938.80
Big State Oil Corp., Dallas	2,715.36	3,538.54
Brownlee-Pope Oil Co., Austin	2,358.08	2,499.84
Butler & Perkins, Olney	246.88	296.15
Barnes, J. B., Electra	14,773.19	17,604.20
British American Oil Producing Co., Tulsa, Okla.	5,259.95	7,117.67
Bynum, W. W., estate, Rockdale	894.67	1,103.13
Brownwood Prod. & Ref. Co., Brownwood	1,338.48	1,769.08
Bluebonnett Petroleum Corp., San Antonio	756.63	799.97
Black, W. A., Midland	1,019.26	1,130.90
Bolin & Lindsay, Graham	22,133.96	442.68
Bolin & Lindsay, Graham (4-1-29 to 12-31-29)	4,737.02	7,818.21
Barbara Oil Co., Chicago, Ill.	3,592.98	5,704.06
Bailey, Mrs. Fannie E., Wichita Falls	475.76	637.52
Bashara, J. F., Houston	7,515.67	8,105.32
Bohner, Crenshaw & Whitehill, Burkburnett	8,025.82	10,288.10
Bohner, C. J., Oil Corp., Burkburnett	9,099.33	12,004.91
Bartlett, William, & Co., Electra	249.20	353.81
Beams, Drew, Okmulgee, Okla.	1,717.34	2,201.46
Bezold & Young, Fort Worth	2,291.35	3,152.74
Buell & Hagan, San Angelo	997.93	200.59
Baldwin, F. C., et al, Fort Worth	1,667.54	2,305.21
Burns, L. T., Wichita Falls	68,859.86	94,786.58
Burns, L. T., Wichita Falls	347.94	498.27
Bayless, A. A., Breckenridge	750.86	1,028.83
Borealis Oil Co., Oklahoma City, Okla.	3,350.85	4,344.02
Brown, A. J., Fort Worth	1,132.28	1,551.23
Brannon & Murray, Cisco	2,762.45	4,218.67
Black Cat Oil Co., Electra	849.33	1,093.57
Bridwell Oil Co., Wichita Falls	87,888.87	108,834.21
Beasley Prod. Co., Electra	149.81	193.25
Brown, H. L., Fort Worth	4,898.14	5,341.42
Bell, E. S., Wichita Falls	2,761.97	4,594.76
Bridwell & Heydrick, trustee, Wichita Falls	1,725.64	2,395.83
Bridwell & Mayfield, Wichita Falls	4,576.93	6,588.64
Burkburnett Production Oil Trust, Baltimore, Md.	1,027.42	1,305.10
Barkley & Conway, Ranger (12-31-29)	7,109.07	12,898.57
Barkley & Conway, Ranger	5,638.62	8,523.64
Byrd, W. E., Hull	1,062.61	884.23
Bohner, C. J., et al, Burkburnett	6,593.66	8,994.75
Brazos River Gas Co., Wichita Falls	476.39	732.35
Bailey, Carl B., Wichita Falls	6,045.35	8,245.75
Boardman & Ulrich, Corsicana	844.00	1,055.00
Brown & Lickey, Wichita Falls	694.68	884.45
Bailey, Fannie, Wichita Falls	54.91	72.49
Benedum-Trees Oil Co., Pittsburgh, Pa.	32,891.43	16,448.69
Bohman, C. F., Kansas City, Kans.	46.73	52.35

(Continued on Next Page)

Name and address—	Barrels	Value
Burton McKee Oil Corp., Strawn	446.01	584.96
Barnsdall Oil Co., Tulsa, Okla.	51,928.13	67,468.61
Britton & Gordon, Strawn	535.46	787.54
Brooks & Hanlon, Inc., Tulsa, Okla.	589.06	714.24
Bevering, A. H., et al, Henrietta	726.60	890.05
Boller, C. W., Wichita Falls	1,044.94	1,452.32
Bruce, A. D., Brownwood	339.91	387.88
Biel, W. A., Von Ormy	31.00	36.80
Bowers Oil Co., Vernon	1,204.57	1,944.67
Burke-Greis Oil Co., Tulsa, Okla.	1,132.15	1,709.75
Bell Oil & Gas Co., Tulsa, Okla.	13,062.79	12,223.16
Badger Oil Co., Amarillo	10,055.18	13,009.10
Braden Co., Tulsa, Okla.	4,533.07	6,799.78
Bynum & Palmer, Rockdale	157.04	192.46
Big Lake Oil Co., Pittsburgh, Pa.	1,006,040.58	1,213,309.78
Boller, C. W., Wichita Falls	13,071.67	19,424.23
Black Diamond Oil Co., Amarillo	470.96	424.35
Baker & Pardue et al, Breckenridge	7,420.11	10,881.29
Baker & Pardue, Breckenridge	7,896.68	11,062.97
Bass & Dillard, Wichita Falls	2,802.14	3,656.54
Brown-Guinn, Wichita Falls	299.70	393.92
Bonner Co., Wichita Falls	17,041.99	22,382.33
Buttram, Frank, Oklahoma City, Okla.	1,061.57	1,321.51
Buttram Petroleum Corp., Oklahoma City, Okla.	38,773.75	60,173.49
Brady Brothers, Minerva	886.50	1,093.20
C		
Connell-Wixson & Frazier, El Dorado, Ark.	1,223.79	1,578.69
Cornhusker Oil Co., Lincoln, Neb. (12-31-29)	1,229.06	1,106.16
Cashdollar & Snyder, Brownwood	166.16	186.09
Chapman, O. H., Waxahachie	122.78	148.84
Clarkson, William, Jr., Houston	4,007.15	5,243.55
Central Texas Refining Co., Corsicana	13,717.53	18,015.71
Crabb & McNeel, San Angelo	3,938.14	5,488.20
Church & Weekley, Fort Worth	86,611.07	60,063.21
Canyon Oil & Gas Co., Inc., Cross Plains	2,189.28	2,845.14
Comet Petroleum Co., Fort Worth	3,383.51	2,381.32
Central Oil Co., Cameron	3,461.62	3,568.06
Cable Oil Co., Wichita Falls	3,282.93	4,532.52
Culbertson Co., Wichita Falls	9,674.91	13,442.42
Cushing Refining & Gasoline Co., Cushing, Okla.	9,614.71	7,546.59
Callihan, George, and Amon G. Carter, Albany	3,445.42	4,319.96
Chenault, W. L., Amarillo	602.10	813.12
Campbell, Alma, Fort Worth	1,237.54	1,586.73
Camp Oil & Gas Co., Wichita Falls	922.89	1,242.93
Cole, W. C., Wichita Falls	1,461.25	1,911.98
Clay, J. D., Houston	1,934.72	1,854.28
California Co., Dallas	1,840,124.00	1,394,172.59
Craig & Lowrie, Pittsburgh, Pa.	1,207.52	1,317.11
Curtis, James A., Wichita Falls	1,806.30	2,439.35
Caruthers Co., San Antonio	1,379.37	1,554.96
Cornhusker Oil Co., Lincoln, Neb.	2,224.50	1,668.37
Corvette Oil Corp., Fort Worth	6,646.94	4,489.99
Carey, C. W., Wichita Falls	3,179.80	4,171.89
Cohen, Aaron, Baltimore, Md.	5,882.55	8,785.45
Cardinal Oil Co., Fort Worth	33,293.72	16,646.86
Cockrell-McIlroy Oil Co., Amarillo	12,054.62	9,909.86
Conway Brothers, Ranger	2,106.55	3,367.94
Conway Brothers & Champion, Ranger	492.82	591.60
Cosby Prod. & Royalty Co., Fort Worth (4-1-29/12-31-29)	109,859.98	2,775.61
Cunningham, J. C., Graham	5,265.97	6,230.81
Cunningham & Lynch, Graham	13,400.45	15,486.68
Cranfill Brothers Oil Co., Wichita Falls	2,919.00	3,940.65
Cranfill Brothers Oil Co., Dallas	55,055.22	39,105.51
Coppock & Coleman, Iowa Park	18,159.00	24,905.00
Coffield & Hale Oil Co., Rockdale	1,666.07	2,054.82
Consolidated Oil Co. of Texas, Wichita Falls	98,928.36	128,049.06
Curry, E. M., Cross Plains	1,696.11	2,592.44
Chapman, P. A., estate, Waxahachie	12,046.58	15,196.68
Charter Oil Co., Brownwood	8,342.00	12,511.02
Crown Central Petroleum Corp., Houston	44,641.19	34,519.92
Crown Oil & Refining Co., Houston	11,904.23	12,985.80
Campbell, Walter K., Co., Wichita Falls	559.20	841.89
Carey, E. S., et al, Wichita Falls	651.84	853.91
Clark, R. R., Wichita Falls	14,018.83	12,265.89
Conner Son & Cloughley, Gotebo, Okla.	11,973.78	15,856.88
Crenshaw, Albert, Wichita Falls	1,091.55	1,496.67
Continental Oil Co., Ponca City, Okla.	2,231,045.70	2,086,280.62
Crosbie, J. E., Inc., Tulsa, Okla.	5,652.98	4,870.97
Chestnut & Smith Corp., Tulsa, Okla.	16,044.14	24,713.95
Clem Oil Co., Houston	508.03	411.25
Chalk, Otis, Big Spring	6,049.83	4,436.06
Cromwell, Carl G., San Angelo	7,907.06	5,739.47
Capitol Oil Co., Orange	1,064.53	1,117.76
Cuno, Mrs. Bertha, Moran	1,780.98	2,186.13
Clayton Key Oil & Gas Co., Amarillo	657.36	819.09
Cullen & West Production Co., Houston	2,636.24	2,926.70
Clear Lake Oil Co., Rockdale	895.40	1,121.83
Caltex Oil Co., Spokane, Wash.	373.00	358.08
Cosden, J. S., Inc., Fort Worth	3,001.24	3,784.56
Canary, S. C., et al, Tulsa, Okla.	346.32	441.56
Cosa Oil Co., San Antonio	248.73	338.28
Christie Brothers, Wichita Falls	23,680.58	34,333.51
Cranfill-Reynolds Co., Houston	352,259.46	370,027.74
Carter, Roy I., Wichita Falls	17,739.40	14,133.89
Cullum, F. P., Wichita Falls	5,454.03	6,721.74
Cosden Oil Co., Fort Worth	238,381.56	208,043.47
Coline Oil Corp., Oklahoma City, Okla.	7,258.52	9,780.85
Champlin Refining Co., Enid, Okla.	247,876.40	297,224.47
Cullen, H. R., et al, Houston	8,076.25	7,971.74
Cisco Oil Co., Tulsa, Okla.	20,766.57	24,336.04
Cowling & Newell Oil Co., Burkburnett	214.84	241.52
Carson, Usher, Laredo	1,755.97	1,316.98
Clark Buffalo Oil Co., Buffalo, N. Y.	883.94	1,001.74
D		
Davis, Caroline A., Somerset	303.26	309.33
Dallas Petroleum Co., Houston	391.43	613.17
Dale & Crawford, Electra	736.69	1,010.05
Dale, Jack B., Wichita Falls	2,766.10	3,706.59
Deutser, B., trustee, Beaumont	1,477.74	1,551.63
Dale-Knotts Oil Co., Wichita Falls	249.83	354.53
Developers Oil & Gas Co., Wichita Falls	543.00	735.65
DenWich Oil Co., Abilene	1,025.39	1,332.38
Dittman Drilling & Producing Co., Fort Stockton	7,261.00	6,115.92
Dittman Drilling & Producing Co., Fort Stockton (9-30-29)	866.97	976.95
Dittman Drilling & Producing Co., Fort Stockton (12-31-29)	1,094.96	1,184.18
Dominion Oil Co., Tulsa, Okla.	647.17	881.69
Dunlop & Dawson, Ponca City, Okla.	12,099.00	15,501.00
Derby Petroleum Corp., Tulsa, Okla.	16,454.39	20,467.62
Dixie Oil Co., Inc., Tulsa, Okla.	113,171.01	79,917.52
Dunigan Brothers, Breckenridge	6,619.99	8,590.45
Dye & Gillette, Tulsa, Okla.	7,178.54	9,335.67
Deaver, J. J., Okmulgee, Okla.	266.18	399.27
Dixon Creek Oil Co., Amarillo	48,171.32	42,678.07
Dunaway, J. E., et al, Wichita Falls	5,585.25	6,861.62
Dalton, Jack, Oil Co., Fort Worth	1,283.00	1,790.79
Dorian, R. P., Wichita Falls	14,943.60	19,310.11
Dennis, J. S., Moran	2,090.49	2,534.96
Douglas Brothers Oil Co., Electra	1,961.46	2,693.82
Douglas Brothers & Johns, Electra	407.03	558.52
Douglas Production Co., Electra	1,550.38	2,041.11
Deering, John A., Houston	75,217.07	85,285.40
Duquesne Oil Corp., Eastland	244.48	370.39
DeMont, Ira N., Cross Cut	308.96	343.23
Delmar Oil Co., Bartlesville, Okla.	46,755.43	56,827.97

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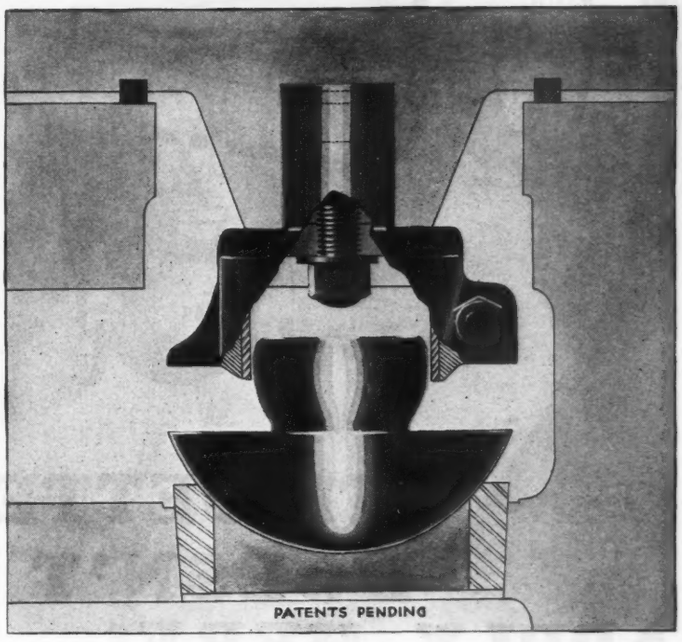

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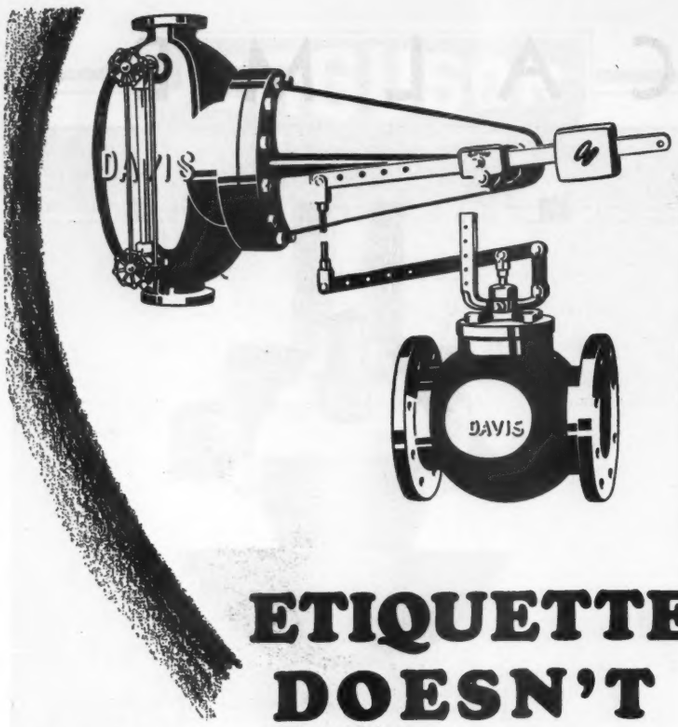

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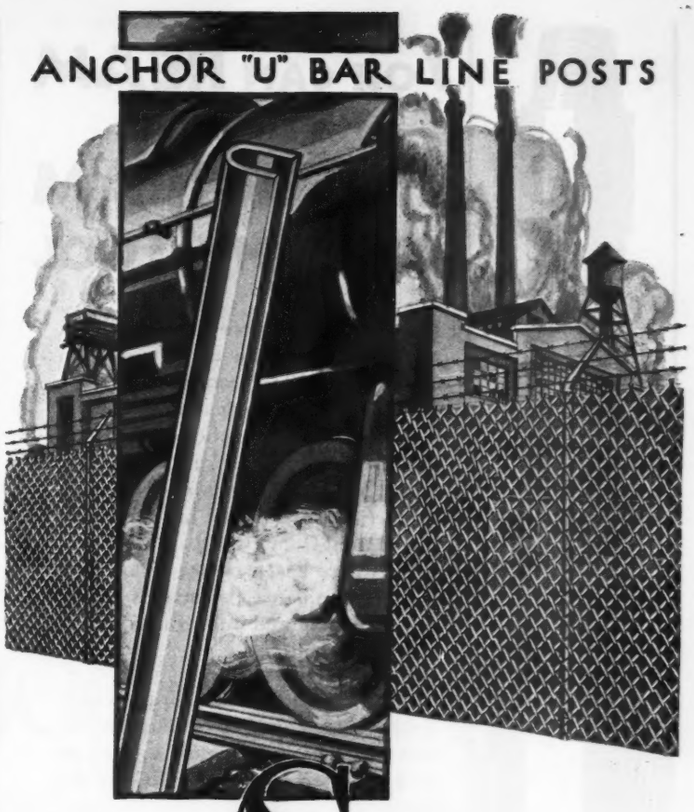
Name and address—	Barrels	Value
Danciger Oil & Refining Co. of Texas, Fort Worth	479,734.28	535,627.61
Duffield & Howard Oil Co., Tulsa, Okla.	567.93	672.38
Dunigan et al, Pampa	1,109.04	1,213.61
Dayton Oil Co., Dayton	79.08	83.03
Davis Oil Corp., Vernon	52,704.00	68,503.88
Dean Oil Co., Burkburnett	345.36	421.34
Douglas Oil Co., Tulsa, Okla.	11,446.57	16,120.87
Duke, W. R., Wichita Falls	4,786.69	3,688.98
Dudley, G. S., Iowa Park (12-31-29)	1,387.21	2,294.30
Dudley, G. S., Iowa Park	1,518.48	2,062.99
Dillon-Glasscock Co., San Antonio	341.41	344.55
Devonian Oil Co., Tulsa, Okla.	23,819.28	25,696.55
Davis, Louise Reyman, Tulsa, Okla.	1.26	1.16
Davis, Beatrice H., Tulsa, Okla.	1.26	1.17
E		
Eddleman & Payne, Inc., Wichita Falls	4,044.47	5,562.17
Electra Production Co., Inc., Electra	675.70	969.50
East Batson Oil Co., Batson	13,617.40	14,721.63
Engel, E. A., Albany	4,125.51	5,410.06
Eubank, R. O., and B. K., Cross Plains	984.22	1,402.11
Eggers, J. E., trustee, San Antonio	510.79	511.89
Erlewine, A. J., Wilson, Okla.	2,615.54	2,763.06
Empire Gas & Fuel Co. (Maine), Bartlesville, Okla.	527,400.91	616,267.96
Ewmo Oil Corp., Abilene	7,201.09	8,808.16
Ellis & Lancaster, Beaumont	462.88	486.02
Eastland Oil Co., Fort Worth	69,911.58	78,415.38
Ernest Oil Co., Rockdale	281.86	341.05
Emerald Oil Co. of Texas, Winfield, Kans.	2,916.52	2,268.72
Eddy Oil Co., Beaumont	1,404.60	1,543.65
Easton, E. S., Wichita Falls	957.20	1,274.58
Elrod, Beabout & Sullivan, San Angelo	3,297.48	4,152.02
Erie Investment, Ltd., of Texas, Toronto, Canada	492.60	566.38
Ellis & DuBose, Fort Worth	1,030.74	1,211.19
Ellis & Anderson, San Antonio	90.58	95.92
F		
Farish & Ireland lease, Houston	4,963.85	5,304.74
Ferguson, W. R., Wichita Falls	590.31	789.90
Fresno Oil Co., Wichita Falls	27,902.94	35,883.18
Fain-McGaha Oil Corp., Wichita Falls	462,072.20	602,155.60
Faith Oil Corp., Wichita Falls	326.80	312.17
Fultz, W. B., et al, Graham	6,907.59	9,706.02
Fort Bend Oil Co., Houston	6,287.35	6,803.21
Fort Bend Oil Co. et al, Houston	10,339.94	10,921.45
Ferguson & Watson, Electra (6-30-29)	1,147.88	1,723.31
Ferguson & Watson, Electra	1,043.36	1,447.29
Flynn, W. B., Beaumont	5,443.58	5,684.16
Fulton, Tom, Wichita Falls	1,248.96	1,663.38
Farlyn Oil Co., Houston	11,471.63	8,112.02
Fountain Production Co., Saratoga	970.47	954.89
Franklin, Wirt, Ardmore, Okla.	429.37	541.64
Fisher, J. A., Wichita Falls	994.36	1,338.22
Freeman, J. H., Wichita Falls	4,708.28	6,272.83
Freeman-Hampton Oil Corp., Wichita Falls	5,987.64	7,830.70
Frontier Oil Co., San Antonio	9,696.95	11,741.28
Forest Oil Corp., trustee account, Luling	7,066.84	7,613.88
Fox & Adams, Burkett	12,779.24	15,270.86
Falls Production Co., Wichita Falls	4,032.91	5,456.07
Foster, Elrod & Tucker, San Angelo	35.15	41.47
Fleming & Kimbell, Sherman	7,014.10	6,683.35
Four Oil Co., Wichita Falls	2,181.54	2,849.33
F. H. E. Oil Co., Sherman	16,257.38	22,802.15
Finston, Mark, special account, Tulsa, Okla.	11,440.95	13,611.27
Forster, A. R., Coleman	95.00	125.40
G		
Gulf Production Co., Houston	6,852,880.79	6,250,193.21
Gibson Oil Corp., Amarillo	28,174.12	26,542.28
Goldelline Oil Corp., Oklahoma City, Okla.	4,086.86	4,283.54
Gwinnup, H. G., Fort Worth (12-31-29)	469.94	814.56
Glodis Oil Co., Saratoga	3,180.10	2,886.69
Gray & Adams, Inc., Gainesville	2,157.25	2,270.97
Gultex Production Co., Waxahachie	1,956.88	2,647.51
Grassroots Oil Co., Fort Worth	1,793.04	2,391.49
Gilbert Co., Beaumont	4,806.50	5,152.67
Gaither Production Co., Rockdale	860.21	1,083.76
Grisham, W. J., Wichita Falls	727.53	1,018.64
Grisham, V. I., Wichita Falls	1,227.48	1,429.95
G & K Production Co., Fredericksburg	1,200.46	1,348.06
Goldsmith, N. D., Olney	15,266.10	23,053.20
Glenridge Oil Corp., St. Louis, Mo.	5,511.53	4,930.01
Ginter-Lange Oil Co., San Antonio	1,375.00	1,611.67
Godley Oil & Gas Co., Dallas	32,399.76	28,921.34
Granite Oil & Gas Co., Ridgway, Colo.	363.76	517.28
Gordon Oil Co. of Texas, Logan, Colo.	80.12	124.19
Gordon, Ann B. Oil Co., Inc., Dallas	6,745.08	10,094.21
Godfrey, F. L., En'd, Okla.	49.17	62.25
Grady, D., et al, Electra	544.70	723.55
Grady, D., fee, Electra	481.18	696.57
Gates-Bacon-Lea, Wichita Falls	5,149.27	6,654.78
Gates Oil Co., Ardmore, Okla.	04.80	4,431.58
Gwynn, P. F., Wichita Falls	670.84	918.98
Gwynn-Boyd Drilling Co., Wichita Falls	10,418.74	14,276.34
Gwynn, P. F., Wichita Falls	887.42	1,255.78
Gilliland, C. W., Wichita Falls	2,469.36	3,292.87
Gilliland-Rosser Oil Co., Wichita Falls	21,610.95	31,594.67
Grayburg Oil Co., San Antonio	163,716.10	133,837.78
Gray, K. C., lease, Holliday	409.66	491.59
Gibson & Cardwell, Wichita Falls	790.25	1,043.26
Gillette, C. W., and J. M. and J. J. Culberston, Tulsa, Okla.	1,797.93	2,894.49
Gillette, J. M., and J. J. Culbertson, Tulsa, Okla.	35,199.40	26,295.71
Goodwin, P. B., et al, Breckenridge	1,137.15	1,380.56
Goodwin, P. B., trustee, Breckenridge	3,099.08	2,177.64
Golding & Cochran, Wichita Falls	38,406.14	49,927.98
Golding, Dudley S., Wichita Falls	36,641.84	31,145.55
Green, W. J., Wichita Falls	80.66	94.37
Gandy & Peyton, Wortham	1,822.52	1,920.20
Gallagher & Lawson, Desdemona	338.63	422.31
Graham & Harrison, South Bend	4,557.68	6,020.83
Gilman & Conway Brothers, Ranger	4,736.29	7,607.17
Grisham-Hunter Corp., Abilene	2,564.28	3,661.85
Gwinnup, H. G., Fort Worth	343.67	533.34
Group No. 1 Oil Corp., Big Lake	454,866.92	637,166.88
Gates Oil Co. (Wyoming), New York, N. Y.	3,705.79	3,816.91
Golden West Oil Co., San Antonio	25,726.26	22,807.98
Ginter-Jones Oil Co., San Antonio	443.00	503.94
Gates & Nutt, Wichita Falls	1,285.14	1,792.23
Green & Owens, Brownwood	772.81	1,208.78
Grayce Oil Co., Wichita Falls	16,840.88	22,156.23
Guthrie, Cole & Ferguson, Wichita Falls	618.61	840.32
Gersuch Oil Co., Abilene	4,144.45	5,831.26
Gunn Production Co., Cross Plains	894.37	1,298.63
Gilman & McMurray, Cisco	3,342.01	4,764.07
Gopher Oil Co., Amarillo	1,324.55	1,470.25
Gibson & Johnson, Inc., Fort Worth	18,658.37	28,338.81
Graham & Lash, Cisco	688.47	860.11
Gardner, Wilson & McCaldin, Wichita Falls	748.34	982.28
Gilliman Brothers, Amarillo	1,220.04	1,251.23
Guaranty Oil Co., Electra	76.27	97.10
Galves Oil Corp., Tulsa, Okla.	4,801.30	6,196.15
Greene Production Co., Fort Worth	43,613.81	43,589.97
Grayback Development Corp., Wichita Falls	27,174.67	35,534.13
Gardner, Wilson & McCaldin, Wichita Falls	748.34	982.28

(Continued on Next Page)

Name and address—	Barrels	Value
H		
Hawkins, W. L., Wichita Falls	2,308.24	3,410.81
Hill, W. R., trustee, Burkburnett	176.00	237.60
Hobbs & Ferguson, Abilene	153.82	189.93
H-Y Oil Co., Inc., Fort Worth	13,945.07	18,216.83
Hunter, T. F., Wichita Falls	8,779.55	13,254.65
Howard County Oil Corp., Big Spring	73,675.26	57,939.98
Hill & Dowell, Batson	11,368.82	11,937.26
Hamilton, Walter R., trustee, San Antonio	4,507.49	5,962.48
H. B. J. Oil & Gas Trust, Baltimore, Md.	1,462.29	1,910.56
Humble Oil & Refining Co., Houston	7,359,321.90	7,686,510.00
Hadlock Oil Corp., El Paso	849.56	846.24
Hadlock Oil Corp., El Paso (11-19-28 to 12-31-29)	.....	106.05
Hi-Land Oil Co., Wichita Falls	22,354.14	37,920.26
Huffman Oil Corp., Amarillo (3-31-29)	5,590.29	4,746.23
Huffman Oil Corp., Amarillo (6-30-29)	4,750.84	4,785.32
Huffman Oil Corp., Amarillo (9-30-29)	4,083.03	4,364.75
Huffman Oil Corp., Amarillo (12-31-29)	2,867.16	3,106.65
Harrison Oil Co., Houston	93,623.91	121,089.49
Houghland Production Co., Dallas	3,258.22	3,297.68
Hickory Oil & Gas Corp., Fort Worth	987.94	1,329.98
Handrick, August, Albany	157.13	183.23
Howard, Duffield & Berlin, Tulsa, Okla.	947.69	1,124.59
Helvetia Oil Co., San Antonio	11,015.31	12,495.99
Hitchman & Howard, Inc., San Antonio	1,944.06	2,359.37
Hedrick-Camp Drilling Co., Wichita Falls	11,464.85	15,209.35
Huber, J. M., Co. of La., Inc., Borger	1,582.44	1,224.23
Hemby, J. M., Electra	958.42	1,273.36
Hyer, Fred, Fort Worth	26,595.18	20,414.67
Houseman, D. H., & Co., Dallas	37.93	53.72
Hawley, J. A., gdn. est. Kevin Hawley, Ottawa, Canada	226.92	280.07
Hart Oil Corp., Fort Worth	527.97	784.83
Holcombe, Thomas, Wichita Falls	344.92	461.90
Hart, J. R., Baird	377.00	475.00
Hope Oil & Gas Co., Fort Worth	9,254.91	12,012.41
Holmes Brothers, Amarillo	1,270.28	1,318.76
Holmes, Hill, Seibold & Holmes, Amarillo	20,097.05	28,847.80
Holmes, Huey & Holmes, Amarillo	19,190.17	27,161.65
Hobson & Voorhees, San Antonio	606.47	696.03
Holloway, R. R., receiver, Brownwood	1,377.74	1,804.84
Herring, S. C., Brownwood	848.00	1,268.03
Hammon & Heyser, Wichita Falls	13,217.48	17,230.10
Hammon, W. H., Wichita Falls	27,290.10	36,503.24
Hobbs Oil Co., Tulsa, Okla.	1,102.94	1,468.15
Hart Brothers, Baird	194.94	203.67
Hobbs, Henry, Wichita Falls	398.03	530.41
Hines, Harry, Wichita Falls	4,881.52	6,757.29
Homaokla Oil Co., Tulsa, Okla.	3,449.12	5,488.45
Harris & Simons, Tulsa, Okla.	6,506.72	3,904.03
Howell, G. H., et al, Wichita Falls	593.17	825.41
Howell, G. H., et al, Wichita Falls (12-31-29)	584.34	993.36
Howell, G. H., et al, Wichita Falls (9-30-29)	746.00	1,243.78
Howell, G. H., et al, Wichita Falls (6-30-29)	586.98	950.13
Holmes & Huey, Borger	1,344.03	1,270.11
Hutcheson, Frank, Archer City	478.71	564.88
Hardy Oil Co., Wichita Falls	1,888.09	2,800.76
Hughes, J. K., Developing Co., Fort Worth	1,089.58	1,111.30
Harper Petroleum Corp., Bryson	61,208.62	93,626.94
Hunter Oil Corp., Chicago, Ill.	17,808.41	24,697.59
Hoffman & Page Co., Eastland	26,862.41	37,196.23
Holbrook & Woods, Wichita Falls	6,767.99	8,708.36
Hamilton & Martin, Wichita Falls	1,490.25	1,967.13
Hedges, F. M., Wichita Falls	188.64	245.23
Hi-land Oil Co. and E. J. Stump, Wichita Falls	34,537.02	47,415.98
Heydrick, L. C., Wichita Falls	7,061.97	9,260.72
Hughes, J. K., Oil Co., Mexia	19,077.66	23,412.08
Home Oil & Gas Co., Inc., Albany	1,662.69	2,004.83
Hickok Producing & Development Co., Toledo, Ohio	324.42	414.93
Heidrich, E. C., Jr., Amarillo	5,576.90	6,140.35
Hynds Oil Co., Cheyenne, Wyo.	598.21	820.90
Harvey, R. A., Houston	1,176.00	1,070.34
Houston Oil Co. of Texas, et al, Houston	361,250.33	229,902.52
Hamilton, W. L., Bridgetown	810.96	1,194.61
Haskell, Frank, Tulsa, Okla.	1,601.84	1,884.45
Holder, F. W., Breckenridge	370.34	420.65
Hamon, Jake L., Ardmore, Okla.	22,044.56	31,791.92
Houston Gulf Gas Co., Houston	7,425.62	5,457.35
Herrogan Oil Corp., Pampa	16,190.15	18,196.73
Harwell, E. P., Tulsa, Okla.	1,979.87	2,825.78
Humphreys Corp., Houston	786,978.17	865,182.10
Humphreys Brothers, Inc., Houston	2,238.86	3,124.74
Herbert Oil Co. of Texas, et al, Fort Worth	10,928.85	15,103.07
Hoppes, W. T., Burkburnett	409.43	466.46
Houston Production Co., Houston	49,420.86	56,781.61
Hefley, McIntosh & Thomas, Cameron	582.17	707.21
Howell, M. L., Lohn	460.00	588.80
Heep Oil Corp., San Antonio	92,112.10	54,495.35
Hinson, G. D. and R. V. Tidwell, Graham	8,487.39	11,759.21
Howard Petroleum Corp., Tulsa, Okla.	834.08	996.51
Horn, T. W., Houston	2,439.80	2,561.80
Halmack Oil Co., Dallas	245.69	365.71
Hardie, J. M., & Co., Sour Lake	119.16	125.11
Hickey, T. J., et al, Corsicana	56.72	79.81
I		
Independent Oil & Gas Co., Tulsa, Okla.	487,010.28	339,298.27
Idaho Oil Co., San Antonio	1,120.40	1,238.09
Irick Oil Co., Waskom	None	None
Infield Petroleum Co., Austin	614.10	808.69
J		
Johnson & Frazier, Wichita Falls (7-1-29 to 12-31-29)	78,083.15	2,904.87
Jackson, T. H., Sipe Springs	29.40	34.40
Jones, J. A., Moran	240.53	322.28
Junker, W. H., Butler, Marcell & Perkins, Olney	603.00	685.75
Justin Oil Corp., et al, Wichita Falls	8,460.99	11,585.63
Judson Oil Co., Tulsa, Okla.	6,244.63	8,343.38
James, Tom, Albany	6,191.51	8,243.77
Jennings, A, B and C leases, Coleman	8,194.58	9,176.92
Jones, Hugh, Burkburnett	2,797.67	3,436.97
Jacob Oil & Gas Co., Graham	1,740.64	2,790.29
Jones, W. A., Rockdale	1,762.52	2,097.61
Jones, Edwin M., San Antonio	25,132.10	22,250.87
Julia Oil Co., Sour Lake	3,098.28	3,350.16
Janellen Oil Co., Tulsa, Okla.	152.16	164.40
Jones, O. P. and C. J. Oates, Amarillo	2,067.86	2,176.12
Jackson, J. S., trustee, Sour Lake	2,727.52	2,863.91
Jackson Co., San Antonio	951.04	1,011.52
K		
Kelly, George L., trustee, Wichita Falls	394.00	496.42
Kerr, T. P., Corsicana	399.16	513.17
Keck Investment Co., Los Angeles, Calif.	5,577.82	4,294.92
King, Anna B., Muskogee, Okla.	255.67	163.56
Kleiner, Charles J., Cisco	19,765.55	25,786.82
Kimmell & Woofter, Wichita Falls	3,828.07	5,339.37
Knotte, F. F., Wichita Falls	512.14	702.62
Kokomo Petroleum Co., Gorman	135.00	201.39
Kimbell & Bostic, Burkburnett	4,900.43	6,958.61
King & Daniel, Wichita Falls	4,753.18	6,643.37
Kahle, Gracey & Diver, Bridgeport, Ill.	2,418.37	1,688.82
Kleinfelder, B. F., Breckenridge	337.21	425.21
Kiak Oil Co., Wichita Falls	226.11	246.26
Killam, O. W., Laredo	153,267.98	119,461.50
Kolp, C. F., Electra	19,525.52	24,929.79

(Continued on Next Page)

ANCHOR "U" BAR LINE POSTS



STRONG
as a steel rail

THE strength of the posts is the strength of the fence. If the posts are weak the entire structure soon becomes a wobbling enclosure.

The Anchor U-Bar Line Posts have been proven by actual and mechanical tests to possess superior strength. They are re-rolled from steel rails which bespeaks their toughness. Further, formed in the shape of a "U," additional resistance to bending is obtained.

The Anchor U-Bar Line Post is only one of the reasons why Anchor Fences provide lasting protection.

Anchor Post Fence Company
Eastern Avenue and Kane Street
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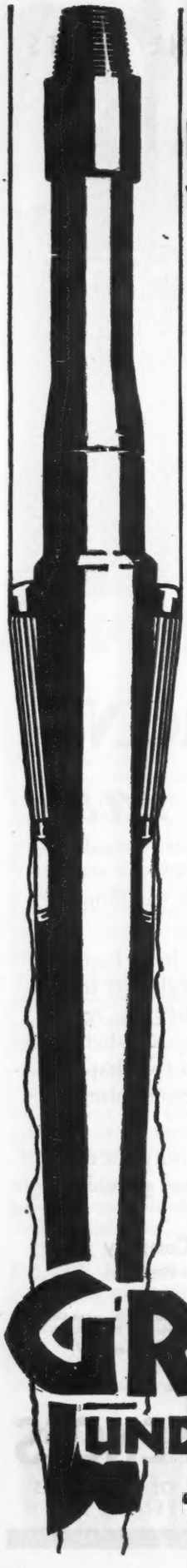
Houston, Tex. San Antonio, Tex. Los Angeles, Cal. Shreveport, La.
New Orleans, La. St. Louis, Mo. Tulsa, Okla. Philadelphia, Pa. New York, N.Y.

Consult phone directory for other local offices

ANCHOR FENCES
MADE BY THE MAKERS OF AMERICA'S FIRST CHAIN LINK FENCE



YOU CAN REAM AND UNDERREAM WITH THIS TOOL

Here's a two-purpose tool that saves you the price of an extra tool — the GRANT Rotary Expansion UNDERREAMER. It Reams and Underreams and does both better than any two tools on the market. The Grant Underreamer gets *all the oil* there is. In *every* case, this tool has increased production from two to 10 times in wells where gas pressure is low, because it eliminates obstructions caused by circulation mud impregnated in the wall of the hole.

And don't overlook the Grant Cable Tool Underreamer — famous for fifteen years as the greatest tool of its kind and used in every oil field in the world.

Come to Underreamer Headquarters for everything in Underreaming. Full details on request.

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2042-44 East Vernon Avenue
Los Angeles, California, U. S. A.

Rotary or Standard Underreamers and Straight Reamers

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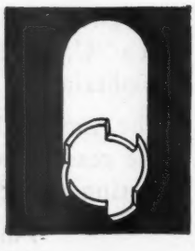
LUCEY PRODUCTS CORPORATION
AMERICAN STEEL EXPORT CO.

Simply insert the Cutter Control Sleeve shown at right when you want to convert the Grant Underreamer to a Straight Reamer. This Sleeve holds the cutters in collapsed position and assures a fast *Reaming* job that will true up the hole.



GRANT UNDERREAMERS

"Used where performance counts"

Name and address—	Barrels	Value
Klemeke, George, trustee, Von Ormy	1,499.38	1,569.51
Kay, A. W., receiver Jones et al, J. E. Keen farm, Graham	1,011.38	1,316.05
Kay & Fultz on John Kisinger farm, Graham	17,239.93	23,191.22
Kidney-Kamon, Fort Worth	2,261.08	3,242.32
Keystone Production Co. of Texas, Fort Worth	2,931.26	4,013.79
Kuhlemeier-Kleiner Oil Co., Cisco	466.65	599.32
Kistler, Frank E., & Co., New York, N. Y.	3,373.41	2,946.44
King Royalty Co., Wichita Falls	129,484.37	178,877.71
King, R. A., trustee, Wichita Falls	3,714.87	2,786.16
Kershaw, L. R., Muskogee, Okla.	844.53	584.13
Kaufman, L., San Antonio	504.54	499.48
Kemrow Co., Wooster, Ohio	11,352.30	15,267.97
Knox, Dewey, Graham	31,660.62	45,083.54
Kurz Oil Co., Somerset	464.91	427.90
Kavanaugh Petroleum Co., Houston	3,080.16	4,274.58
Kirby Petroleum Co., Houston	116,267.57	91,592.10
Kewanee Oil & Gas Co., Titusville, Pa.	156,846.08	213,904.66
Keener Oil & Gas Co. of Texas, Tulsa, Okla.	3,960.96	5,343.47
Kent, G. C., Corsicana	17,910.33	21,413.62
Kate Bell Oil Co., Dallas	816.10	1,189.21
L		
Little Flower Oil Co., St. Louis, Mo. (12-31-29)	1,921.01	2,266.79
Lockhart & Co., El Paso	92,424.13	99,287.62
Lytle, C. F., Mexia	5,340.66	6,466.50
Lawson, Eugene B., Tulsa, Okla.	79,192.04	104,917.29
Little Caddo Syndicate, Fort Worth	1,534.84	2,200.90
Leiser-Rochmill Production Co., Fort Worth	959.38	1,404.46
Lake Graham Oil Co., Houston	3,203.70	3,728.76
Lynch, John D., trustee, Sioux Falls, S. Dak.	1,476.83	2,170.94
Lee, Homer, Wichita Falls	14,288.44	20,190.90
Little, William, Breckenridge	270.38	326.71
Linedo Oil Co., Lincoln, Neb.	1,226.08	919.56
Letwin & Lippitt, Breckenridge	12,903.91	16,903.11
Lewis, J. E., & Co., Eastland	1,793.58	2,849.23
Lewis, J. E., et al, Eastland	1,120.00	1,434.24
Lewis Production Co., Pittsburgh, Pa.	38,482.62	51,262.70
Last Chance Gas Co., Pampa	1,620.68	1,808.27
Lackey, W. G., Co., Tulsa, Okla.	1,858.44	2,622.78
Lion Oil Refining Co., El Dorado, Ark.	714,273.51	520,559.73
Lucey Petroleum Co., Dallas	197.99	261.88
Leonard, George, Somerset	978.21	979.72
Leonard Oil Co., Somerset	187.18	190.92
Len-Cook Oil Co., Electra (6-30-29)	416.58	641.38
Len-Cook Oil Co., Electra	365.50	475.05
Lyon & Gralapp, Pampa	2,556.00	2,855.38
Lowe, Delaney & Carter, DeLeon	118.13	215.88
Lobban, J. T., Electra	90.87	115.57
Lake View Oil Co., Sour Lake	14,719.51	15,882.42
Lone Star Gas Co., Dallas	53,071.17	74,892.12
Louisiana Oil Refining Corp., Shreveport, La.	39,045.77	35,315.29
Lebow, C. H., Tulsa, Okla.	1,018.11	1,421.23
Lowenstein Oil Co., Rockdale	1,100.83	1,409.06
Ledger Oil & Gas Co., Brownwood	812.27	1,124.25
Lee & Scott, Inc., Houston	1,596.89	1,780.69
Lomax, Thornton, Jr., Wichita Falls	2,405.74	3,245.61
Lefors Petroleum Co., Lefors	44,402.76	56,978.37
Landreth Production Corp., Fort Worth	438,578.21	342,211.37
Long, C. B., et al, Wichita Falls	366.93	439.05
Lesh, John L., & Co., Wichita Falls	6,670.75	4,890.35
Lido Oil Co., Wichita Falls	34,049.95	34,331.44
LaSalle Petroleum Co., Tulsa, Okla.	3,257.96	4,096.24
Little Flower Oil Co., St. Louis, Mo.	366.15	429.44
Levy & Evans, trustee, Fort Worth	46.86	64.67
Levy, Leonard M., trustee No. 1, Fort Worth	2,329.11	3,608.95
Levy, Leonard M., trustee No. 2, Fort Worth	1,226.75	1,864.37
Lesh & McCall, Nocona	18,000.75	10,866.40
Lesh, Kilcrease & Co., Nocona	1,961.10	1,423.46
Mc		
McCarter, R. C., Rising Star	321.20	459.31
McJunkin, Florence T., et al, Tulsa, Okla.	433.47	674.84
McDonald, M. C., Bowling Green, Ohio	4,236.99	5,537.90
McChesney, Nancy, Olney	4,692.40	5,628.46
McMurray, Root & Rhodes, Eastland	996.00	1,643.00
McHugh, Graham E., Graham	420.71	620.87
McMurray, J. L., et al, Cisco	1,690.07	2,559.88
McNallen & Griffin, Tulsa, Okla.	3,489.99	4,442.21
McDonald & Campbell, Dallas	5,059.72	7,609.40
McFall, J. M., Wichita Falls	626.28	808.10
McCall, C., trustee, Nocona	728.00	728.00
McGinley-Sigler Co., Fort Worth	11,816.47	11,756.09
McDaniel Oil Corp., Cisco	4,838.82	6,870.04
McLester Oil Co., Eastland	9,384.44	14,395.37
McCutchen, C. E., trustee, Wichita Falls	6,248.76	8,386.75
McCormick & Noack, Rockdale	66.44	78.40
McNamara Oil Co., Beaumont	2,569.60	2,783.75
McBride, W. C., Inc., St. Louis, Mo.	5,439.72	6,502.73
McCarty Oil Co., Wichita Falls	88,830.56	125,793.99
McIlroy Oil Co., Amarillo	40,907.03	35,810.54
McMan Oil & Gas Co., Tulsa, Okla.	964,978.79	873,524.49
McCrary, E. W., Tulsa, Okla.	3,539.97	4,352.48
McLean, Marrs, Beaumont	71,010.71	63,542.04
M		
Magnolia Petroleum Co., Dallas	2,851,906.14	2,823,111.10
Mook-Texas Oil Co., Fort Worth	9,294.01	14,597.05
Melat Oil Co., Fort Worth	8,702.07	12,053.73
Mancill, R. W., Cisco	397.35	467.40
Mills & Garitty, Corsicana	1,638.43	1,802.27
Margarett Oil Co., Albany	843.00	1,011.00
Medina Oil & Gas Association, San Antonio	143.60	156.52
Minor Oil Co., Beaumont	6,936.96	7,501.92
Mount & Lee, Inc., Wichita Falls	1,720.30	2,160.50
Madden & Hunt, Olney	33,392.81	49,211.44
Madden, E. B., Olney	16,440.77	25,043.16
Marnet Oil & Gas Co., Tulsa, Okla.	3,727.89	4,815.96
Medio Oil Co., San Antonio	873.50	999.52
Moody-Seagraves Producing Co., Houston	256,805.83	154,623.41
Morgan Oil Corp., Houston	200,699.12	117,685.73
Macknold Co., San Antonio	224.82	215.84
Marquette Oil Co., Tulsa, Okla.	5,199.20	6,196.88
Morgan, T. P., San Antonio	15,706.27	11,767.31
Mayberry, C. R., Co., Laredo	2,447.36	1,855.52
Merrick & Goldsmith, Wichita Falls	5,919.17	8,162.19
Moran Co., Wichita Falls	11,340.67	14,644.72
Mills Bennett Production Co., Houston	360,123.44	359,588.74
Mann, Floyd, Graham	2,044.54	2,634.52
Mann & Forbes, Graham	3,081.13	4,056.78
Minnich, A., Archer City	66.83	80.18
Massie, J. H., Wichita Falls	38,483.39	51,922.87
Martin & Hamilton, Wichita Falls	3,994.04	4,868.73
Millikin, L. L., Burkburnett	285.27	353.50
Mudge Oil Co. of Texas, Pittsburgh, Pa.	198.08	124.79
Midwest & Gulf Corp. of Texas, Tulsa, Okla.	1,383.14	1,452.35
MacDermott, W. F., Fort Worth	473.04	585.62
Mues & MacDermott, Fort Worth	202.89	249.55
Mecam Oil Co., Liberty	3,003.00	3,153.15
Madison Oil & Gas Co., Electra	3,875.17	5,921.39
Minerva Petroleum Co., Minerva	630.42	781.69
Merrick & Bristow, Ardmore, Okla.	74,392.06	50,365.01
Merrick & Lamb, Ardmore, Okla.	35,203.65	38,119.87
Menke, John G., Wichita Falls	929.30	1,240.91
Moore, F. L., trustee, Tulsa, Okla.	1,573.45	2,024.05
Morgan, Ray, et al, Fort Worth	800.76	1,150.12

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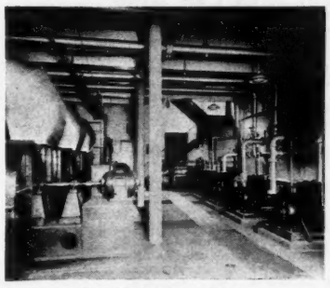
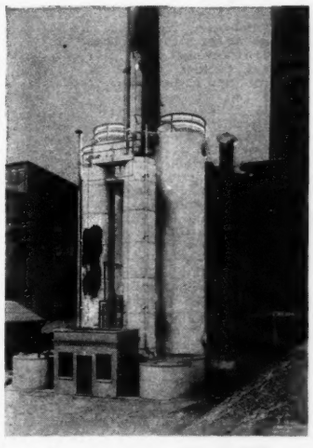


The Model Pump Room

A combination LIQUID PURIFICATION & DEHYDRATION PLANT



We illustrate at the left a new Koppers Liquid Purification and Dehydration plant, designed and built by "Western Gas".

Gas with 2000 Gr. H_2S per 100 cu. ft. at 40# gas pressure, is first purified then dehydrated. The gas produced is used for both domestic and commercial purposes.

Complete Literature covering "Dehydration" and "Koppers Liquid Purification Processes" available upon request.

THE WESTERN GAS CONSTRUCTION CO.

FORT WAYNE, IND.

"Western Gas" Designs and Builds

- A. B. C. Generator Grates
- Naphthalene and Gum Absorbers
- Condensing Apparatus
- Carburetted Water Gas Plants
- Blue Water Gas Plants
- Gas Dehydration Plants
- Holders (Gas, Oxygen, etc.)
- Liquid Purification Plants
- Oxide Boxes (Purifiers)
- Welded Steel Pipe
- Tower and Rotary Scrubbers
- Valves

Subsidiary of
THE KOPPERS CO.

Accurate
COMPOSITE
SAMPLES
Quickly-
-Easily
Hills-McCanna Samplers enable you to obtain samples of light or viscous oils from 3 levels in one operation—you can take samples from extreme bottom of storage tanks or tank cars. Ask for Bulletin.
HILLS-McCANNA CO.
2351 Nelson St.
Chicago
HILLS-McCANNA
Liquid Sampler

Name and address—	Barrels	Value
Minntex Oil Corp., Wichita Falls	752.71	868.10
M. & V. Oil Co., Wichita Falls	3,375.25	4,436.95
Marts, E. R., Dallas	3,167.88	4,103.65
Mook-Texas Oil Co., Fort Worth	9,979.75	13,873.88
Meredith & Gant, Wichita Falls	2,418.90	2,665.28
Maxwell, J. C., Fort Worth	61,943.13	50,582.00
Moss & Urschel, Dallas	9,481.41	12,335.63
Moss, Urschel & Keys, Dallas	6,156.99	7,360.20
Magee, R. B., Wichita Falls	1,194.54	1,745.90
Mid-Continent Petroleum Corp., Tulsa, Okla.	11,739.55	16,484.27
Moutray Oil Co., Abilene	89,071.70	128,261.34
Midwest Exploration Co., Denver, Colo.	198,948.05	256,401.86
Mendenhall Oil Co., Cisco	1,418.91	2,193.90
Milham Corp. of Texas, San Antonio	2,447.95	3,394.88
Merrick & Belcher, Wichita Falls	9,527.09	14,429.54
Montgomery, Rea, Montgomery, Sedgwick	1,270.05	1,649.41
Minnehoma Oil & Gas Co., Tulsa, Okla.	2,710.06	2,456.64
Mordyan Petroleum Co., Pampa	43,243.86	52,761.26
Mid-Kansas Oil & Gas Co., Findlay, Ohio	2,831,354.66	2,137,475.73
Major, A. W., Laredo	3,663.06	2,854.74
Marshall, George S., Laredo	3,976.34	2,982.25
Mennis, G. W., Wichita Falls	3,956.78	5,550.66
Murchison Oil Co., Dallas	77,562.86	58,883.07
May, F. N., Santa Anna	261.00	308.00
Meridian Petroleum Corp., Tulsa, Okla.	2,572.20	3,206.09
Martin, N. H., Wichita Falls	12,598.93	13,984.81
Moore, U. A., Eastland	779.86	1,323.61
N		
Newton & Little, Shreveport, La.	20,568.03	22,415.44
National Oil Co., San Antonio	656.27	621.82
Newport & Ohio Petroleum Co., Newport, N. Y.	408.12	460.57
Navarro Oil Co., Houston	239,556.70	249,448.73
Newton-Palmer Oil Co., Rockdale	370.52	468.32
Number Nine Oil Corp., Tulsa, Okla.	2,815.84	3,917.82
Nash & Windfohr, Graham	8,810.63	13,293.54
Nabob Oil & Gas Co., Amarillo	32,523.63	42,618.21
North Fork Oil Co., Amarillo	4,692.27	5,557.29
Noack Oil Co., Rockdale	1,374.51	1,718.14
Noack & Lanning-Shelton, Rockdale	291.36	378.77
Noack & Lanning-Phillips & Perry, Rockdale	74.64	88.08
Nash, Windfohr & Perry, Austin	61,762.52	66,857.31
O		
Owenwood Pool No. 3, Fort Worth	4,133.70	5,100.04
Oil Investment Co., Wichita Falls	1,925.61	2,508.18
Overby, J. D., Iowa Park	295.77	418.51
Ocean Oil & Refining Co., El Paso	788.93	828.37
Olney Oil & Refining Co., Olney	377.71	526.99
O'Neil, John, Wichita Falls	14,697.95	21,977.45
Ochiltree, C. N., et al, Pampa	15,858.06	18,239.00
Operators Oil Co., Tulsa, Okla.	316,694.79	302,712.02
Ohio Somerset Oil Co., Cleveland, Ohio	1,247.88	1,395.20
Oil Fields Corp. of Arkansas, El Dorado, Ark.	86.00	107.50
Olean Petroleum Co., Bristow, Okla.	16,948.73	13,922.20
Owen-Sloan Oil Co., Forsan	79,238.89	51,590.42
Oriental Oil Co., Dallas	305.18	359.99
Oil Royalty Corp., Brownwood	202.50	202.50
Omilak Oil Co., Spokane, Wash.	278.00	300.24
Orange Petroleum Corp., Orangefield	24,377.97	25,572.83
Owens Oil Co., Brownwood	457.06	456.10
Old Colony Oil Co., Dayton	1,256.73	1,387.07
Operators Royalty Co., Tulsa, Okla.	15,860.82	24,042.22
P		
Pennowa Oil & Gas Co., Tulsa, Okla.	12,831.84	15,894.11
Pivoto, M. E., Sour Lake	7,591.76	8,277.87
Piper, L. E., trustee, Vernon	1,823.99	2,393.77
Pratt, Thomas H., Brenham	126.00	126.00
Pollard, W. E. and C. E., Pampa	4,961.56	6,669.96
Powell, J. L., Wichita Falls	332.22	428.55
Permian Oil Co., Eastland	18,658.38	28,338.73
Palo Duro Oil Co., Amarillo	3,290.49	3,059.49
Piney Oil & Gas Co., New York, N. Y.	2,188.56	1,915.84
Portland Drilling Corp., Wichita Falls	810.32	1,089.80
Pioneer Oil, Gas & Refining Co., Danville, Ill.	1,026.37	936.68
Palmer & Burch, Inc., Wichita Falls	12,388.98	16,593.00
Powell, H. J., trustee, San Antonio	8,367.98	8,840.28
Pecos Crude Oil Purchasing Co., San Angelo	3,367.10	2,904.93
Pace, George L., Wichita Falls	514.49	673.54
Petroleum Producers Co., Wichita Falls	444.29	614.39
Prairie Lea Production Co., San Antonio	7,183.30	5,387.47
Paggi, Charles, & Co., Beaumont	868.06	911.46
Paraffine Oil Co., Houston	9,974.96	10,842.35
Peery, Thomas H., Wichita Falls	9,685.00	14,567.48
Pandem Oil Corp., Wichita Falls	34,644.75	42,283.86
Producers Supply & Tool Co., Marietta, Ohio	3,483.96	4,718.91
Philp Brothers, Beaumont	3,990.99	4,292.45
Parry Oil Co., Fort Worth	29.72	38.64
Phillips, J. R., Amarillo	4,603.04	4,794.66
Phillips, W. G. and J. B. Milam, Chelsea, Okla.	54.31	68.42
Panhandle & Santa Fe Ry. Co., Wichita Falls	9,133.40	5,936.71
Palm, F. N., et al, Albany	719.97	739.46
P-M Drilling Co., Chelsea, Okla.	48.57	61.41
Pearson, W. L., Properties, Inc., Corpus Christi	230,243.54	167,247.88
Poor Boy Oil Co., Rockdale	468.33	576.05
Primrose Refining Co., Wichita Falls	5,510.30	7,490.89
Py-Tex Oil Co., Winchester, Ky.	1,251.39	1,910.16
Pemeta Oil Co., Fort Worth	3,456.36	4,693.06
Petroleum Producers Co., Wichita Falls	122,837.52	167,131.31
Producers Drilling Co., Wichita Falls	4,746.90	6,389.90
Pace & Ward, Breckenridge	1,586.29	2,073.24
Pure Oil Co., Chicago, Ill.	501,944.52	594,108.49
Pure Oil Co., Chicago, Ill.	689,701.88	718,059.19
Price-Russell & Co., Ranger	3,808.00	6,093.50
Powers Production Co., Houston	1,705.36	1,279.00
Preston Oil & Gas Co., Brownwood	311.22	415.68
Palmer, Freddie Oil Co., Rockdale	151.00	178.80
Pilkenton, F. L., Burkburnett	1,120.90	1,378.76
Plymouth Oil Co., Pittsburgh, Pa.	112,097.03	87,840.54
Putnam Oil Co., Tulsa, Okla.	37,561.64	48,417.29
Prairie Oil & Gas Co., Independence, Kans.	957,161.16	966,029.32
Prairie Oil & Gas Co., Prairie-Shamrock Operating Acct., Independence, Kans.	38,828.37	50,039.93
Perkins, J. J., Wichita Falls	2,561.33	3,470.25
Perkins & Cullum, Wichita Falls	62,580.18	85,613.85
Poole, B. O., Batson	2,783.09	3,032.01
Producers & Refiners Corp. of Texas, Independence, Kans.	7,308.33	9,640.73
Pitzer & West, Breckenridge	56,774.96	86,968.64
Phillips Petroleum Co., Bartlesville, Okla.	2,097,349.96	2,432,322.11
Pois Fine & Schulz, Wichita Falls	864.14	1,201.45
Pois, M., et al, Wichita Falls	3,626.59	4,914.77
Pois, M., trustee, Wichita Falls	195.05	248.40
Petroleum Investment Co., Wichita Falls	2,861.69	3,905.98
Primrose Oil Co., Sour Lake	1,438.61	1,623.29
Panhandle Refining Co., Wichita Falls	252,069.51	330,126.97
Paggi Bros. Oil Co., Beaumont	7,984.84	8,384.09
Q		
Quinn, J. W., et al, Eastland	2,709.63	3,907.10
Quartet Oil Co., Tulsa, Okla.	6,695.45	9,429.10
Quincy Oil Co., Vernon	150.24	198.31

(Continued on Next Page)

R

Name and address—	Barrels	Value
Robinson, Arthur D., Dallas	6,785.70	7,545.61
Rowe, J. G., Wichita Falls	3,269.40	4,490.99
Reclamation Co., Fort Worth	5,123.96	6,369.18
Reinhart, M. J., trustee, Oklahoma City, Okla.	447.59	596.84
Rock Creek Oil Corp., Amarillo	5,637.63	5,172.02
Rockdale Junior Oil Co., Rockdale	143.80	169.67
Reed, Crenshaw & Glass, Nowata, Okla.	10,460.33	14,229.69
Rochmill, Henry, trustee, Fort Worth	532.28	755.80
Richardson & Kelsey, Fort Worth	6,218.59	4,166.45
Roeser & Pendleton, Inc., Fort Worth	202,960.84	282,662.74
Ramming, W. F., Wichita Falls	86.04	146.29
Ramming, R. W., Wichita Falls	5.85	7.88
Ramming, Staley & Ramming, Wichita Falls	577.71	817.45
Ruyle Farm & Oil Co., Wichita Falls	6,797.08	9,998.86
Reno Oil Co., Sistersville, W. Va.	51,487.23	67,191.23
Robertson Drilling Co., Fort Worth	1,036.84	1,411.80
Root, Rhodes, Gilman & McMurray, Eastland	6,265.00	8,651.00
Ross, C. E., Burkburnett	399.08	483.96
Riggs, E. R., Graham	25,855.83	34,752.00
Riggs & Oliphant, Graham	10,381.51	13,577.54
Ruthada Oil Co., Oklahoma City, Okla.	15,622.07	13,881.94
Robert Oil Corp., Breckenridge	27,635.93	36,784.32
Red River Oil Co., Tulsa, Okla.	13,410.60	18,138.80
Ricker, Rupert P., and Floyd C. Dodson, San Angelo	298.23	395.20
Robinson, J. B., Sour Lake	253.72	266.41
Ranell Oil Co., Oklahoma City, Okla.	4,516.21	6,177.66
Ruby Oil Co., Rockdale	152.68	184.74
Richards, M. L., Wichita Falls	585.09	806.62
Rockwell, J. A., & Co., Warren, Pa.	2,484.03	3,318.15
Roberts, H. W., Wichita Falls	1,898.73	2,642.74
Robinson, O. D., Pittsburgh, Pa.	1,197.58	1,268.71
Roth & Faurot, Independence, Kans.	4,720.66	8,154.09
Roth & Faurot Oil & Gas Co., Independence, Kans.	4,273.45	7,220.29
Rex-Tex Oil Co., Winchester, Ky.	1,251.39	1,910.16
Rycade Oil Corp., Houston	93,175.92	87,766.28
Rathke Oil Co., Wichita Falls	26,445.44	36,116.25
Riner & Omohundro, Wichita Falls	13,115.81	18,116.00
Riner & Bailey, Wichita Falls	43,284.17	60,282.66
Rhodes & Highers, Breckenridge	4,794.93	6,145.40
Randado Oil Corp., Oklahoma City	17,605.03	13,275.76
Rock Oil Corp., Ponca City, Okla.	6,026.46	7,915.08
Rexal Petroleum Corp., San Antonio	28,483.89	27,329.98
Ryan Consolidated Petroleum Corp., Tulsa, Okla.	96,382.90	136,824.95
Ramsel, W. T., Oil Co., Rockdale	1,736.28	2,170.35
Rio Bravo Oil Co., Houston	428,710.78	466,245.27
Ruthada Oil Co., Ardmore, Okla.	1,683.19	1,281.54
Rentex Oil Co., San Antonio	7,419.58	7,528.50
Reiter-Foster Oil Corp., Tulsa, Okla.	13,333.50	18,698.84
Republic Production Co., Houston	532,374.57	526,485.72
Ross, Dwight M., Wichita Falls	2,005.97	2,717.93
Rubsam & Hunter, Wichita Falls	5,617.84	8,177.37
Rountree & White, Rockdale	629.38	783.49
Roy Long Oil Co., Navasota	1,843.78	2,337.23
Rancho Oil Co., Fort Worth	4,497.49	5,402.76
Ramsey, E. H., Rising Star	574.10	833.12
Russell & Wilson, Wichita Falls	3,299.24	4,442.36
Reeder, R. S., et al, Wichita Falls	5,067.29	7,071.53
Roots & Rhodes, Eastland	4,726.00	6,816.00
Root Drilling Co., Eastland	7,720.00	10,983.00
Remo Oil Co., Pampa	3,262.99	4,155.03
Reeder & Scarborough, Wichita Falls	1,872.16	2,397.53
Root, C. M., Eastland	5,102.00	6,527.00
Root & Fehl, Eastland	10,767.00	15,790.00
Reserve Petroleum Co. of Texas, Tulsa, Okla.	552.63	838.52
Refugio Oil Corp., Refugio	363,183.91	198,620.72
Robertson, R. R., Wichita Falls	7,471.56	9,383.07
Red Bank Oil Co., Tulsa, Okla.	13,477.79	19,792.14

S

Seaboard Oil & Gas Co. of Texas, Wichita Falls (9-36-29)	36,086.08	59,042.68
Stepp & Keister, Coleman (12-31-29)	2,232.83	3,683.17
Staley, J. A., Wichita Falls	1,914.15	2,711.64
Supreme Oil Co., Orange	3,491.36	3,696.93
Stratton, Ed F., Pioneer	293.22	339.29
Spencer, H. H., & Co., Burkburnett	169.32	223.50
Skinner, E. W., Oil Co., Saratoga	3,771.77	4,059.09
Schlicher Oil Co., Beaumont	823.59	864.77
Standard Oil Land & Leasing Co., Electra	243.78	321.75
Strelsky, Joe, and Hubert Hefley, Rockdale	379.06	272.14
Saratoga Oil Co., Wichita Falls	876.14	1,219.94
Star Drilling Co., Wichita Falls	28,967.32	43,089.66
St. Marys Oil & Gas Co., St. Marys, W. Va.	44,452.96	46,410.30
Sessions, I. P., Rockdale	506.30	617.20
Swanner, John L., Wichita Falls	1,823.33	2,421.24
Swenson, E. P., Stamford	182.03	255.06
Simmons, T. K., Tulsa, Okla.	1,451.38	1,759.40
Schaffner, E. N., et al, Cross Plains	1,110.03	1,273.11
Sinclair Oil & Gas Co., Houston	201,634.86	211,265.56
Smith, McIntosh & Thomas, Cameron	513.26	547.48
Southern Petroleum Exploration, Inc., Sistersville, W. Va.	15,019.49	17,621.71
Spencer, H. E., trustee, St. Louis, Mo.	813.20	998.56
Shamrock Oil & Gas Co., Amarillo	172,384.69	195,362.51
Slicker, Homer, Cisco	1,474.24	1,823.62
Smith, Levi, et al, Texon	30,087.91	48,897.18
Smith, Levi, and J. C. Shaffer, Texon	203.32	246.45
Smith, Levi, Texon	410.24	663.42
Smith, Levi, and Fred Hyer, Texon	1,050.78	1,676.50
Snider, C. W., Wichita Falls	1,105.24	1,688.31
Seybert Brothers, Mooringsport, La.	2,528.19	4,110.09
Shappell Oil Co., Wichita Falls	50,122.62	68,342.24
Saigh, N. A., San Antonio	1,147.27	1,421.60
Shasta Oil Co., Wichita Falls	648.82	799.59
Smith Oil Co., Rosston, Ark.	565.07	557.14
Sandefer-Atkinson-Daniel Oil Corp., Breckenridge	3,397.32	4,703.46
Shoup, O. H., Jr., Colorado Springs, Colo.	1,644.74	2,213.99
Staley, J. I., & Co., Wichita Falls	3,704.21	4,806.48
Staley, Wynne & Co., Wichita Falls	198,290.17	243,912.46
Smor Oil Co., Riggs & Oliphant, Graham	689.72	871.19
Sheldon, C. P., Electra	13,868.54	19,871.86
Scott & Britton, Graham	238.80	329.40
Scott & Nance, Graham	2,575.69	3,606.02
Skelly Oil Co., Tulsa, Okla.	778,202.81	800,620.89
Schoolfield, R. E., Oklahoma City, Okla.	175.87	222.19
Summerfield Oil Co., Tulsa, Okla.	141.67	177.41
Simms Oil Co., Dallas	1,045,690.02	867,425.29
Savoy Oil Co., Tulsa, Okla.	14,075.63	9,929.36
S. & W. Oil Co., Amarillo	9,729.13	7,978.77
Sullivan, M. J., et al, Kansas City, Mo.	257.74	309.27
Sircovich, A., and Mrs. F. M. Thomas, Houston	468.39	365.33
Sinclair Oil & Gas Co., Tulsa, Okla.	95,296.22	136,945.55
Stovall, E. C., & Co., Graham	3,773.00	5,814.11
Skia-Tex Petroleum Co., Amarillo	24,632.16	24,810.34
Scott & Walker, Albany	4,150.98	4,766.90
Sprague Oil Co., Ardmore, Okla.	13,005.48	8,162.00
Stekoll, Harry, Tulsa, Okla.	11,027.39	10,478.28
Shelby Oil & Gas Co., Tulsa, Okla.	7,176.79	10,594.88
Shulman, Harry, et al, Breckenridge	1,360.00	1,496.00
Sun Oil Co., Dallas	1,393,612.89	1,391,527.44
States Oil Corp., Eastland	32,547.36	48,305.60
Stock, H. I., Cisco	2,638.13	3,366.95
Sheffield Oil Co., Houston	2,285.22	3,487.77
Saxet Oil Co., Houston	381,354.38	320,757.68
Syndicate Oil Corp., Rochester, N. Y.	500.74	757.43
Schermerhorn Winton Co., Minneapolis, Minn.	80,285.64	59,821.80

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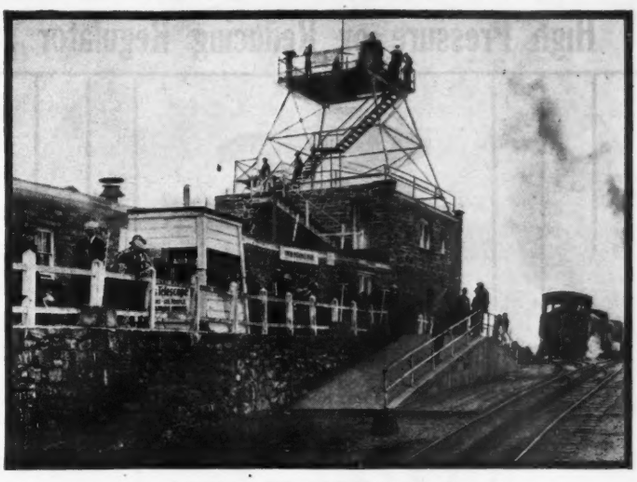
WORLD NEWS STORIES OF THE KOHLER ELECTRIC PLANT—No. 16



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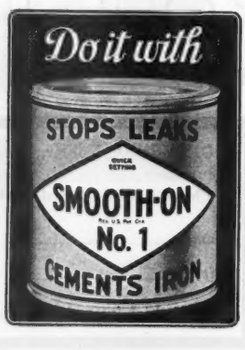

Name and address—	Barrels	Value
Schaffner-Wilson, et al, Wichita Falls	1,843.89	2,672.3
Sand Creek Oil Co., Amarillo	4,838.53	5,320.7
Stock, Anna B., Cisco	84.82	97.7
Schlaffke, Edward, Electra	85.88	105.6
Southern Crude Oil Purchasing Co., Fort Worth	2,842,112.63	2,011,841.9
Smith & Bynum, Amarillo	718.49	774.7
Smith, Mrs. James L., Amarillo	5,370.60	5,558.1
Smith, R. E., Houston	21,981.50	21,304.5
Somerset Oil Co., San Antonio	1,053.95	1,075.7
Somerset Crude Oil & Refining Co., Somerset	2,518.94	2,697.3
Speed, C. D., Corsicana	135.26	168.4
Salado Oil Co., San Antonio	1,561.71	1,644.4
Shaw Oil Co., Wichita Falls	67,964.50	91,658.4
South Texas Petroleum Co., Houston	185,537.67	263,213.1
Stroube & Stroube, Corsicana	30,674.64	36,701.9
Sink, Joel, Corsicana	205.50	265.0
Scarborough, W. A., Burkburnett	2,750.26	3,521.0
Smith, W. B., et al, Eastland	426.85	581.7
Samuell, Howard, et al, Shawnee, Okla., and Coleman	640.98	664.7
Spring Creek Oil Co., Amarillo	3,366.69	3,248.9
Snowden & McSweeney Co., New York, N. Y.	52,750.54	69,051.6
Shaw, T. G., Oil Corp., Fort Worth	54,274.92	65,639.3
Shallow Sand Oil Co., Fort Worth	313.95	368.8
Shutzer Brothers, Dewey, Okla.,	6,769.16	10,178.9
Shell Petroleum Corp., St. Louis, Mo.	2,137,007.56	1,771,822.7
Schermerhorn Oil Co., Minneapolis, Minn.	213,274.35	143,253.9
Shattuck, Mrs. Nellie S., executrix, Dallas	2,964.42	3,737.2
Sedwick Oil Co., Tulsa, Okla.	10,031.28	12,130.8
South Shore Oil Co., Houston	8,438.69	8,283.3
Smith, E. L., Oil Co., Inc., Mexia	228,920.93	259,447.8
Smith, McIntosh & Thomas, Cameron	1,204.58	1,504.0
Simpson-Fell Oil Co. and W. T. Hales, Ardmore, Okla.	5,897.23	7,891.9
Simpson-Fell Oil Co., W. T. Hales and Walter H. Gant, Ardmore, Okla.	9,667.26	7,507.7
Stella Oil Co., Beaumont	15,163.44	16,393.2
Summit Oil & Refining Co., Amarillo	2,586.88	2,663.2
Sheldon, W. J., Electra	3,402.55	4,707.1
T		
Thurber, C. J., Iowa Park	527.80	818.0
Trinity Townsite Co., Dallas	693.69	941.1
Taylor-Sibley Syndicate, Dallas	2,373.25	3,248.7
Tex Cal Oil Co., Brownwood	8,446.14	9,749.1
Trimount Petroleum Co., Shreveport, La.	5,910.50	8,499.3
Texas Fidelity Oil Corp., Fort Worth	7,662.01	12,101.9
Thomas J. Elmer, Fort Worth	358.81	540.2
Talbot & Markle, Houston	6,423.09	6,446.4
Triangle Oil & Gas Co., Rockdale	992.86	1,211.2
Trinity Production Co., Wichita Falls	384.19	518.8
Texas Unity Oil Co., Dallas	631.21	901.1
Texas Petroleum Co., San Antonio	35,964.57	10,602.7
Tegler, F. E., San Antonio	309.26	366.7
Treat, E. M., Oil & Gas Co., Pittsburgh, Pa.	1,520.42	1,981.1
Tannehill, L. B., Albany	48,637.54	64,384.5
Texota Petroleum Co., Electra	225.47	320.1
Texas Petroleum Development Co., Cameron	4,219.87	5,261.5
Tucker, Art, Graham	2,724.48	3,911.9
Triangle Petroleum Co., Inc., The, Fort Worth	484.82	663.4
Teatsorth, L., et al, a/c No. 2, Eastland	1,380.56	1,926.2
Tidal Oil Co., Tulsa, Okla.	176,181.21	164,598.1
Thall Oil Co., Beaumont	3,722.40	5,353.7
Tripplehorn, D. R., Pampa	6,387.34	7,994.2
Turman Oil Co., Tulsa, Okla.	28,802.81	40,185.3
Transcontinental Oil Co., Tulsa, Okla.	2,797,571.04	2,093,384.2
Transcontinental Oil Co., Tulsa, Okla.	7,822.88	5,982.9
Transcontinental Oil Co., Tulsa, Okla.	13,640.71	17,068.0
Transcontinental Oil Co., Tulsa, Okla.	5,441.28	7,332.2
Tidwell, H. L., trustee, Graham	1,018.06	1,304.7
Turman, L. C., Fort Worth	102,102.51	96,259.2
Tillman, J. W., Humble	342.71	311.7
Tumblin, W. E., Wichita Falls	164.32	216.8
Thomas, J. A., Burkburnett	1,575.27	1,970.0
Texon Oil & Land Co. of Texas, Big Lake	139,376.85	98,583.2
Thaxton, W. H., estate, Austin	373.60	493.1
Taylor-Link Oil Co., Houston	125,229.99	96,352.1
Towns, M. K., Luling	16,645.28	18,101.2
Thomson, F. L., San Antonio	36,203.88	37,559.8
Thomasson, E. M., & Co., Inc., Denver, Colo.	1,301.21	908.3
Teddlir, J. E., Liberty	1,487.08	1,522.0
Tower & McKanna, Inc., Wichita Falls	20,934.76	31,289.1
The Texas Company, Houston	4,304,651.03	5,079,012.2
Teci Production Co., Breckenridge	2,118.23	3,162.9
Texas Consolidated Oil Co., San Francisco, Calif.	8,145.00	12,155.5
Texas Pacific Coal & Oil Co., Thurber	286,977.92	312,347.1
Texas Pacific Coal & Oil Co., Thurber	59,604.09	83,247.8
Travelers Oil Co., Amarillo	14,765.04	15,627.8
Tucker Oil Co., Wichita Falls	74,427.73	90,924.1
Thompson, J. E., Humble	592.00	613.0
Theis Oil Co., Sour Lake	3,161.59	3,432.0
Timms, L. W., Oil Corp., Amarillo	7,093.75	6,944.0
Timms-Dietsch Oil Corp., Amarillo	4,965.35	6,856.0
Timms-Robinson Oil Corp., Amarillo	1,264.27	1,716.2
Timms-Fogarty Oil Corp., Amarillo	1,194.60	1,236.8
Tidwell, R. V., trustee, Graham	3,591.46	4,793.6
Teatsorth, L., et al, Eastland	1,984.55	3,125.9
U		
United North & South Development Co., San Antonio	1,117.09	1,396.2
United Oil Corp., Wichita Falls	1,388.71	1,917.3
Union Oil & Mining Co., Tulsa, Okla.	10,069.54	14,097.3
Unity Oil Co., Beaumont	18,406.00	20,046.0
United North & South Development Co., San Antonio	119,668.42	128,567.6
United Royalties Corp., Wichita Falls	504.32	809.1
Underwood Drilling Co., Wichita Falls	3,149.57	4,091.7
Underwood Drilling Co., Wichita Falls	1,610.38	2,068.5
Underwood Drilling Co., Wichita Falls	1,130.65	1,434.9
Underwood Drilling Co., Wichita Falls	3,686.89	4,776.6
Underwood Drilling Co., Wichita Falls	2,038.10	2,744.7
United Royalties Corp., Wichita Falls (12-31-29)	671.87	1,192.0
United Producers Co., Wichita Falls	52,583.29	72,262.2
Upland Oil Co., Pampa	11,524.53	13,922.7
Union Producing Co., Houston	661,820.88	506,553.8
Union Production Co., Rockdale	3,353.06	4,033.7
V		
Victor Co., San Antonio	1,401.10	1,471.1
Venmex Oil Co. of Texas, Wichita Falls	70,779.34	100,822.1
Vacuum Oil Co., Houston	38,635.89	54,318.3
Virginia Oil Association, Inc., Fort Worth	2,297.26	3,111.6
Van Cleave Trust, Baltimore, Md.	460.95	553.0
Van Wormer, F. E., Wichita Falls	1,226.44	1,671.0
Valerio, Inc., San Antonio	468.22	551.7
W		
Webb Oil Co., Humble	4,245.94	4,458.2
Wakefield, M. E., et al, Cross Plains	93.60	126.3
Weekley Oil Corp., Fort Worth	19,294.38	14,053.8
Witcher, W. C., et al, Wichita Falls	528	715.6
Witcher, Annie L., guardian, Wichita Falls	3,475.56	1,814.2
Wolf, D. L., Orth	454.13	572.6
Woods & Bennett, Humble	6,464.30	7,640.8
Wallace, C. Charles, and Hulda B., Wichita Falls	37,098.69	51,036.5
Wampen Oil Corp. of Texas, Dallas	330.15	440.6
Warner-Quinlan Co. of Texas, Dallas	351,410.30	265,599.6
White, James H., Wichita Falls	7,991.96	10,753.5
Weiler, J. G., et al, Cross Plains	862.61	1,118.3

(Continued on Next Page)

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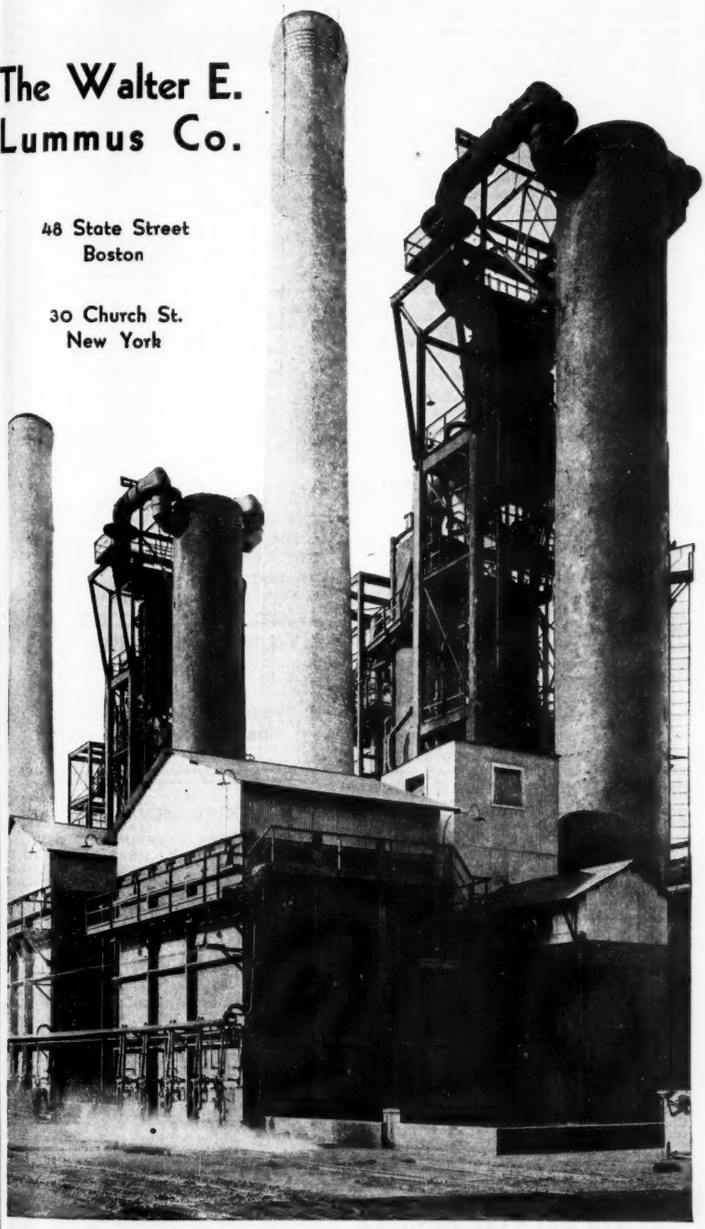
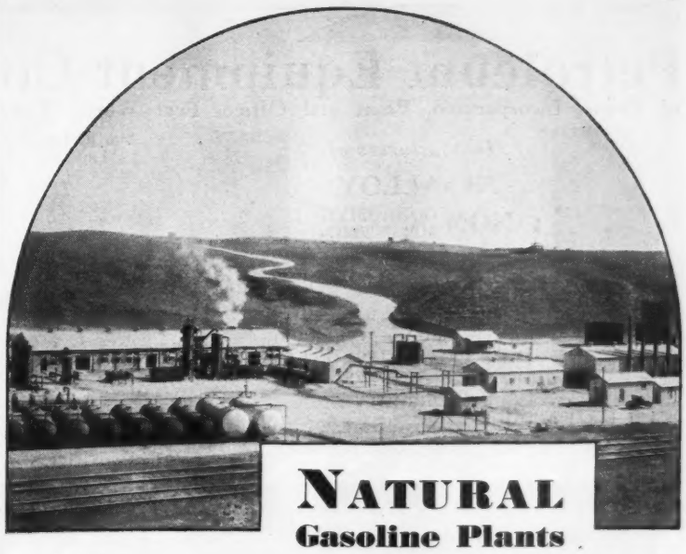


PETROLEUM PLANTS



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SURVEYS
ESTIMATES OF OIL RESERVES

AN EXPERIENCED OIL FIELD ORGANIZATION

Name and address—	Barrels	Value
Wills Oil Co., Rockdale	1,180.77	1,453.11
West, Mrs. Bessie M., Houston	1,427.00	1,498.35
Wilder, Jack H., Rice	590.87	772.56
Webb, J. R., and J. H. Bryant, Corsicana	314.86	231.42
Webb, J. R., Corsicana	182.46	229.89
Worth Oil Co., Wichita Falls	3,574.77	4,748.24
Whaley Mineral & Realty Trust, Fort Worth	1,922.24	2,476.52
Weiler, H. J., Wichita Falls	285.60	368.42
Williams, Burt, Wichita Falls	737.61	862.98
Weister, E. P., Tulsa, Okla.	3,771.88	4,810.55
Wills, O. C., Burkburnett	929.38	1,092.69
Watchorn, Robert, Oklahoma City, Okla.	1,872.00	2,094.32
Waggoner, E. P., and C. F. Kolp, Electra	8,303.63	10,625.60
Whiteside, J. E., Brownwood	296.25	338.41
Wolfe, A. T., Wichita Falls	3,130.60	4,487.60
Ward Oil Corp., Ardmore, Okla.	150,569.17	110,474.48
Wilkins, L. A., Burkburnett	3,278.31	4,261.80
Walker, A. C., Albany	2,808.90	3,273.61
Wood, Benton, Lesh & McCall, Nocona	4,855.85	3,953.65
Williams, John H., Dallas	3,546.94	4,598.53
Wahpoo Oil Co., Rockdale	1,232.06	1,589.36
Westheimer & Daube, Ardmore, Okla.	1,434.52	1,921.14
Why Not Oil Co., Mexia	4,300.75	5,771.01
Wentz, L. H., (Oil Division), Ponca City, Okla.	13,389.38	8,974.81
Walker, B. S., estate, Fort Worth	790.25	969.22
World Oil Co., Inc., Fort Worth	7,520.56	5,444.00
Wilson Drilling Co., Wichita Falls	11,203.34	15,263.51
Woodley Petroleum Co., Shreveport, La.	19,822.92	29,041.55
White & Duncan, Wichita Falls	5,559.71	7,328.83
West, J. H., Cisco	7,493.57	9,825.07
Wheelock & Collins, Corsicana	10,991.28	15,495.47
Weiler, C. A., Brownwood	91.10	116.74
Worth Petroleum Co., Fort Worth	2,315.00	2,789.76
Wise & Porterfield, Graham	5,414.10	7,493.07
Wallace & Davis, Minerva	313.34	376.64
Wallace & Davis, Minerva	234.57	279.04
Wallace & Emrick, Minerva	377.76	457.92
Woods, C. D., and C. C., Ranger	85.14	132.68
Woods, C. D., and C. C., Ranger	338.43	406.12
Wo-Mac Oil Co., Wichita Falls	7,154.61	9,871.08
Woody, W. C., Wichita Falls	9,685.58	14,567.48
Witherspoon Oil Co. and C. L. Witherspoon, San Antonio	12,203.34	14,643.49
Witherspoon Refining Co., San Antonio	25,652.26	19,628.52
Wilson-Broach Co., Beaumont	12,176.18	13,328.20
Wichita Production Co., Wichita Falls	10,954.73	14,496.67
Wilbarger Oil Co., Wichita Falls	1,581.62	1,810.48
Wilcox, H. F., Oil & Gas Co., Tulsa, Okla.	143,646.19	186,930.06
Waggoner Refining Co., Inc., Electra	296,826.02	376,874.65
Wilson, Lee, estate, et al, Wichita Falls	4,490.10	6,018.66
West Production Co., Houston	11,648.59	12,454.68
West, C. K., Breckenridge	2,796.66	3,657.16
Woodburn Oil Corp., Dallas	3,784.85	4,977.94
Whitehill Oil Corp., Tulsa, Okla.	3,547.88	4,785.85
Williams & Williams, Amarillo	932.02	848.13
Weaver & Pois, Wichita Falls	2,634.07	3,426.19
Wise & Jackson, Sapulpa, Okla.	8,199.03	10,785.02
Y		
Young Brothers & Alexander, Inc., Fort Worth	21,210.03	30,850.24
Yount Lee Oil Co., Beaumont	1,792,579.97	1,861,629.37
Z		
Zadie Belle Oil Co., Fort Worth	485.00	721.74
Zenith Oil Producing Co., Vernon	26,900.52	34,090.77
SUPPLEMENTAL LIST		
Andrews Petroleum Corp., San Antonio and New York, N. Y.	4,028.43	3,474.79
Briggs, R. F., Corsicana	56.39	78.89
First National Bank, et al, Wichita Falls	102.32	131.98
Glover & Wall, Vernon	1,581.13	2,361.82
Palm, F. N., Albany	724.96	739.46
Anderson, C. N., trustee, Des Moines, Iowa (10-18-27/12-31-29)	13,379.88	19,088.21
Anna Belle Oil Co., Fort Worth	919.30	1,572.46
Anna Belle Oil Co., Fort Worth (7-1 to 9-5-28)	26,590.91	42,988.02
Arnold & Frazier, Putnam	188.00	263.97
Breeding & Hütson, Rising Star	527.47	784.16
Collins, W. P., Breckenridge	994.36	1,360.36
Cox, Edwin B., Ardmore, Okla.	1,489.41	2,138.37
Edmondson, J. M., San Antonio	1,236.48	1,322.74
El Rio Oil Co., Amarillo	190.74	158.22
Gainesville Oil & Development Co., Gainesville	1,166.82	1,186.46
Glass Brothers, Rosebud	373.60	731.36
Grandfalls Oil Co., Grandfalls	1,513.85	1,314.64
Green, James H., & Co., Inc., Houston	269.83	367.14
Hedrick, L. C., Wichita Falls (11-1-29 to 12-31-29)	412.83	633.86
Johnson Brothers, San Antonio	5,516.63	6,675.28
Jones, J. E., Wichita Falls	1,563.67	2,098.69
Loggie A. Arendt Oil Co., Albany	2,048.00	2,437.12
McGraw Oil Co., Tulsa, Okla.	1,084.14	1,342.41
Mozzle Oil Corp., Eastland	248.85	274.56
Nunn-Stubblefield Oil Co., Amarillo	19,253.72	23,759.09
Oldom, William P., Iowa Park	614.00	865.94
O'Brien, W., Amarillo	811.79	790.08
Owens, Sherwood B., Inc., Brownwood	12,532.00	17,761.57
Pearson, P. L., Wichita Falls	139.97	142.76
Hammond, J. G., Tulsa, Okla.	173.07	259.11
Hempshire Oil Corp., New York, N. Y.	21,293.41	25,774.86
Koenig, Max W., Oakland, Calif.	18,117.86	14,096.99
Richard Kohlman, Iowa Park	511.90	657.90
Marine Corp., Dallas	4,635.95	4,283.56
Pennowa Oil & Gas Co., Sklatook, Okla.	10,623.00	11,362.82
Pharis Oil Co., Amarillo	515.97	506.65
Stein, H., Ranger	514.00	637.16
Stump, E. J., & Co., and Venmex Oil Co., Wichita Falls	4,616.99	6,182.12
Tyler, W. A., et al, Fort Worth	5,772.06	8,850.06
Ungren-Frazier, et al, Putnam	1,480.00	1,868.15
Winrod Oil Co., Amarillo	1,048.79	1,161.68

EXPLAIN USE OF AIR RELEASE DEVICES

(Continued from Page 148)

innovation appears to have solved the problem, but in practice the device is too new on the market really to prove that it is the panacea for the inherent ills that beset the pump.

You all know that the "visiguage," the "see-glass," or whatever you would call it, has done much to take the mystery from the delivery of gasoline through the pump to the fuel tank on the automobile. Whether or not you are sure of getting what you ask for, the visiguage gives you a glimpse of the transaction in motion between tank and car. The visiguage being at the highest point on the line is a telltale to the operator and the observant driver as to when air is in the line. Bubbles may be seen drifting through the agitated fluid, which is an indication of air and that a resultant short measure is being delivered. A visiguage will reveal any air bubbles that enter the gas supply line through any of the causes I have enumerated above, but this is only shown after the fluid has been measured.

Air-Release Device

The testing of a pump by a weights and measures official may reveal a shortage that is greater than the tolerance allowed, and this shortage may be due to air in the line being measured or metered, which would cause the vigilant official to condemn the pump for adjustment; but since most states require only

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TULSA, OKLA.

an annual test of each device, the pump may be wrong for a lengthy period without the cause being known or the removal of the factor that brings about the short measure. An air-release device would act as a constant guard against air mixing with gasoline and being measured as such.

Naturally the device has its drawbacks. It protects the customer but it does nothing for the dealer who may be losing thousands of gallons of gasoline through underground leakages that will not show above the surface of the earth. Not only would this amount to a considerable sum of money over a period of a year, but it would also create a fire hazard that would cause serious loss of life and property should the impregnated ground ignite and explosion occur.

The question of air in connection with gasoline dispensers has been an important factor for serious consideration since the days of the first gasoline outfits, and it is submitted to you by the State Department of Weights and Measures of New Jersey that in the power-driven types of metering equipment it is possible to provide practical and dependable means for eliminating this undesirable factor. The subject of air release devices is one on which the State Department of Weights and Measures of New Jersey has an open mind and it should not be approached as something new that should be accepted as a cure-all for short measure of gasoline, simply because it is an innovation.

It has merits that seem worthy of our consideration. And it has strong points that should make us look with favor upon its adoption, but not, however, before the device has been through the proving ground of practical use under all climatic and mechanical conditions.

MIXTURE RESTORES LOST CIRCULATION

(Continued from Page 82)

was rerun and went to the bottom without any further difficulty.

Fissurseal will not only help to wall up the hole but acts to relieve agitation, gas pressure and other unfavorable strata conditions that menace production. It works with equal efficiency on mud and cement.

As a water shut-off it has demonstrated its advantages and economy. For instance, where heavy gas pressure is encountered, correspondingly heavy mud-laden fluid is employed to blanket the gas. Due to the constant rotary action of the bit this mud settles to the wall as a heavy paste. The congealing and expanding action of Fissurseal on the mud is such that it makes it insoluble in water, effecting a perfect bond to the wall in any strata.

Operators have found that by using the Fissurseal treatment with the mud prior to cementing and by properly waterproofing the cement, danger of future water trouble is reduced.

Every seasoned operator knows that there is a variety of grief resulting from loose formations, and scarcely two cases are alike. Hence the policy of the Sullivan laboratories has been to provide individual chemical advice as part of the service of its products.

In addition to Fissurseal, Sulco products include Konset, for bonding, waterproofing and accelerating the set of all grades of portland cement, for cementing casing or anywhere around the lease. Kleen-A-Well for the removal of paraffin, gypsum and salt, and for cleaning rods. Slush-Mix Liquid, a binder of heavy, viscous, oily compound for thickening the mud to wall up the hole and carry the cuttings. Slush-Mix Paste or Powder, giving the weight and containing the necessary gel to hold the weight in suspension. No additional gel is required when this latter product is used. Hef-T, for use when unusual gas pressure is encountered, also has the necessary gel action to carry the weight. Gelite, an improved gel for drilling where gas is not considered, is an economical combination eliminating the purchase of products which would otherwise be necessary to accomplish the desired results.

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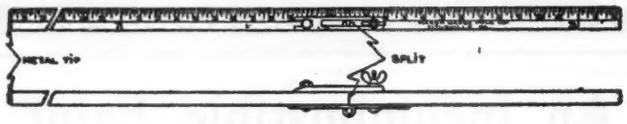

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CENTRAL WEST FIELDS

Continued from Page 60)

the Demint-Hardy land, at Harrisonville, same county.

In St. Louis County, Missouri, a dry hole was drilled by M. M. McCurdy, on the Benjamine-Baumhoff property. Hoffman Brothers Construction Co. is working at No. 1 well on fee property. St. Elco Oil & Development Co. is drilling No. 1 R. J. Cullie, in Survey 276, and is drilling No. 1 on the R. J. Cullie at St. Ferdinand. Same company is drilling No. 1 on the R. J. O. Roller, in Survey 1,968, same county.

To Test Vigo County

Plans are being perfected for a thorough testing of Vigo County, around Terre Haute and farther south through the county to the old field in Sullivan County. In this area a very high-grade crude was discovered some years ago in the southern portion of the county by the Siosi Oil Corp. and quite a number of wells were drilled along the division of Vigo and Sullivan Counties, but work did not extend northward toward Terre Haute. Ellis & Thomas, Kentucky operators, are the new addition to Vigo County, having purchased the old well drilled in Terre Haute many years ago and which was an excellent producer in its day. It will be left stand as an oil monument of the early days of oildom in Indiana.

In the Siosi Pool, Prairie Creek Township, Vigo County, the Siosi Oil Corp.'s No. 9, in the northeast corner of the William Riggs No. 2 farm, in the NE NE, Section 32, which produced 5 bbls. from a total depth of 2,170 feet. No. 19 is drilling for the same company on the William Riggs No. 1 farm, same section, and the Ohio Oil Co. is drilling No. 2 on the Cash Piety farm, also in Section 32, same township.

In Sullivan County, just south of Vigo County, the Twin Creek Oil Co.'s No. 4, in the northeast corner of the Elmer E. Williams, NW NW, Section 5, Fairbanks Township, produced an initial of 60 bbls. from a total depth of 2,225 feet.

In Daviess County, Veale Township, L. G. Gee and others' No. 3, in the southwest corner of the Otis Wildman, SE, Section 21, pumped 15 bbls. initial. Sand was topped at 1,325 feet, where 10 feet of sand was drilled through, then sent to a total depth of 1,350 feet.

ILLINOIS

A remarkably fine producer was uncovered in the old producing area of Lawrence County, Illinois, the Ohio Oil Co.'s No. 21 well, 250 feet from the south line and 950 feet from the east line of the A. B. Buchannan farm, SE, Section 1, Dennison Township, producing an initial of 140 bbls. from Ridgley sand from 1,267-76 feet, and indicating that many more good wells can be found within the old defined limits of the county, where there are several known producing sands, the lowest being the McCloskey. In Petty Township, same county, the Ohio Oil Co. abandoned No. 1 Rose B. Shipman, SE, Section 23; No. 1 Dora Hipshire, NW, Section 25, and No. 23 A. R. Applegate, SE, Section 12, same township.

In the southwestern portion of the State, in Sugar Loaf Township, St. Clair County, and south of East St. Louis, the Ohio Oil Co.'s No. 8 well, 177 feet from the south line and 900 feet from the east line of the Phillip Frye, SW NW, Section 34, pumped an initial of 70 bbls. from 680 to 745 feet. Hageman & Waldon's second test, 1,200 feet from the south line and 900 feet from the west line of the Pauline Eckert, SW, Section 34, produced 20 bbls. under pump from 688 to 726 feet. Lon Coleman's No. 1 on the Tom Gardner lot, in Dupo, same township, and in Section 21, pumped 5 bbls. from 547 to 566 feet. Joe Weiss and others' No. 1 on the Phillips lot in East Carlondalet, same county, produced 50 bbls. of dead oil the first 24 hours, and for five days made 200 bbls. when it went to fresh water. In Marissa Township, same county, the Petroleum Enterprise Corp. drilled a test in the northeast corner of the William Stewart farm, Section 25, getting a dry hole from 896 to 900 feet.

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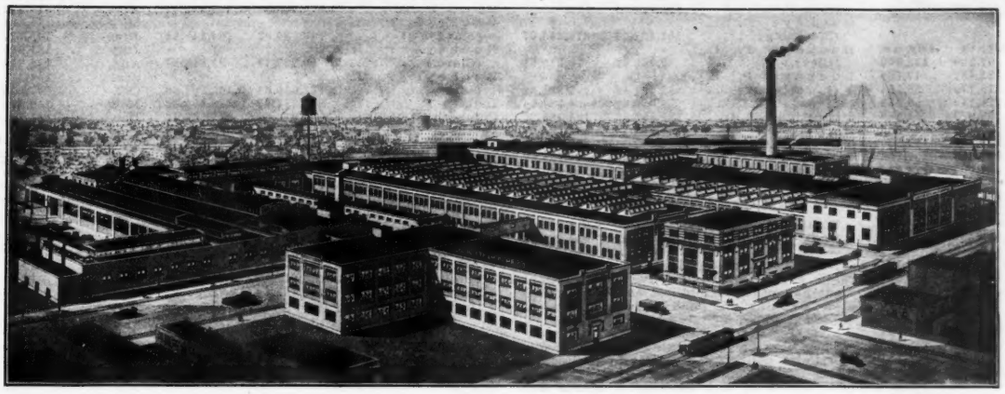

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